2 Regulatory Impact Review

This RIR examines the benefits and costs of a proposed regulatory amendment to limit access for trawl CVs targeting BSAI TLAS yellowfin sole for delivery of the catch to a mothership or catcher processor for processing.

The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735, October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and Benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

E.O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant." A "significant regulatory action" is one that is likely to:

- Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

2.1 Statutory Authority

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801, *et seq*.), the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the regional fishery management councils. In the Alaska Region, the Council has the responsibility for preparing fishery management plans (FMPs) and FMP amendments for the marine fisheries that require conservation and management, and for submitting its recommendations to the Secretary. Upon approval by the Secretary, NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine and anadromous fish.

The yellowfin sole fishery in the EEZ off Alaska is managed under the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP). The proposed action under consideration would amend this FMP and Federal regulations at 50 CFR 679. Actions taken to amend FMPs or implement other regulations governing these fisheries must meet the requirements of Federal law and regulations.

qualify for participation in the BSAI TLAS yellowfin sole directed fishery based on their incidental catch of yellowfin sole. In addition, eligibility for other fisheries that limited access was based on trip target rather than directed fishing activity. Comparing the two approaches in the BSAI TLAS yellowfin sole directed fishery resulted in the same number of LLP licenses qualifying using either approach. In the end, the Council opted to adjust the language in Alternative 2 because the use of trip target eliminates the potential for LLP licenses qualifying for a BSAI TLAS yellowfin sole directed fishery endorsement based only on their incidental catch of BSAI TLAS yellowfin sole.

2.3.4 June 2017

At the June 2017 meeting, the Council took final action to limit access for trawl catcher vessels targeting BSAI TLAS yellowfin sole for delivery of its catch to a mothership or catcher processor. Specifically, the Council recommended as its preferred alternative that a CV may target the BSAI TLAS yellowfin sole directed fishery and deliver its catch to a mothership or CP only if that CV is assigned an LLP license that is credited with at least one trip target landing in the BSAI TLAS yellowfin sole directed fishery made to a mothership or catcher/processor in any year between 2008-2015. The Council also recommended that if more than one LLP license is assigned to a vessel that made at least one trip target in the BSAI trawl limited access fishery, the vessel owner must specify only one LLP license to receive credit with the landings made by that vessel when more than one LLP license was assigned to the vessel. The Council did not recommend either of the options that would eliminate the limitation on participation to vessels using eligible LLP licenses if specific TAC thresholds were reached.

2.4 Alternatives

Alternative 1: No Action-Status Quo

Alternative 2 (Preferred Alternative): A catcher vessel may target the BSAI trawl limited access yellowfin sole fishery and deliver its catch to a mothership or catcher/processor only if that catcher vessel is assigned an LLP license that is credited with at least one trip target landing in the BSAI trawl limited access yellowfin sole fishery made to a mothership or catcher/processor between:

Option 1

Option 1.1(Preferred Option): 2008-2015

Suboption 1.1.1 (Preferred Suboption): in any year
Suboption 1.1.2: in any two years

Option 1.2: 2008-2016

Suboption 1.2.1: in any year
Suboption 1.2.2: in any two years

If more than one LLP license is assigned to a vessel that made at least one trip target in the BSAI trawl limited access fishery, the vessel owner must specify only one LLP license to receive credit with the landings made by that vessel when more than one LLP license was assigned to the vessel.

Option 2

Option 2.1: All catcher vessels may target yellowfin sole in the BSAI trawl limited access fishery and deliver its catch to a mothership or catcher/processor if the TAC assigned to the trawl yellowfin sole limited access fishery is equal to or greater than:

Suboption 2.1.1: 15,000 mt
Suboption 2.1.2: 20,000 mt
Suboption 2.1.3: 25,000 mt
Suboption 2.1.4: 30,000 mt

Option 2.2: Catcher vessels that do not meet the landings qualification established under Option 1, may target yellowfin sole in the BSAI trawl limited access fishery and delivery to a mothership or catcher/processor only for that portion of the yellowfin sole TAC assigned to the BSAI trawl limited access fishery that is equal to or greater than:

Suboption 2.2.1: 15,000 mt
Suboption 2.2.2: 20,000 mt
Suboption 2.2.3: 25,000 mt
Suboption 2.2.4: 30,000 mt

The amount of halibut PSC that may be used by catcher vessels defined under Option 2.2 in the BSAI trawl limited access fishery may not exceed an amount determined by multiplying the proportional share of yellowfin sole available to those vessels by the amount of halibut PSC assigned to the yellowfin sole fishery.

2.4.1 Preferred Alternative

In June 2017, the Council recommended as its preferred alternative that a CV may target the BSAI TLAS yellowfin sole in the directed fishery and deliver its catch to a mothership or CP only if that catcher vessel is assigned an LLP license that is credited with at least one trip target landing in the BSAI TLAS yellowfin sole directed fishery made to a mothership or catcher/processor in any year between 2008-2015. If more than one LLP license is assigned to a vessel that made at least one trip target in the BSAI trawl limited access fishery, the vessel owner must specify only one LLP license to receive credit with the landings made by that vessel when more than one LLP license was assigned to the vessel. This analysis further clarifies that LLP licenses that meet eligibility requirements under the preferred alternative would receive a BSAI TLAS yellowfin sole directed fishery endorsement to indicate that the vessel to which it is assigned is authorized to participate as a CV in the BSAI TLAS yellowfin sole directed fishery and deliver its catch to a mothership or CP acting as a mothership.

2.4.2 Rationale for the Council's Preferred Alternative

This section summarizes the Council's stated rationale during the June 2017 Council meeting for its preferred alternative and suite of options.

As noted above, the Council clarified that eligibility to participate in the offshore BSAI TLAS yellowfin sole directed fishery for CVs would be attached to an LLP license, provided it meets qualifying criteria, in the form of an endorsement to that LLP license. While the Council's deliberations on the alternatives were focused on the number of CVs participating in the fishery under the alternatives, the number of CVs that would be "eligible" to participate in the offshore BSAI TLAS yellowfin sole directed fishery, as

understood and discussed by the Council under the preferred alternative, corresponds to the number of LLP licenses that meet the eligibility requirements for a BSAI TLAS yellowfin sole directed fishery endorsement. The Council's recommendation of the preferred alternative was predicated on the assumption that eight LLP licenses to which eight CVs are currently assigned would be eligible to participate in the BSAI TLAS yellowfin sole directed fishery under the preferred alternative, Suboption 1.1.1. Section 2.7.6 describes the process NMFS would use to determine trip target landings assigned to an LLP license and the process for assigning BSAI TLAS yellowfin sole directed fishery endorsements.

Since the implementation of the BSAI TLAS yellowfin sole fishery in 2008, AFA and non-AFA catcher vessels, AFA CPs, floating processors, and Amendment 80 motherships have participated in the TLAS yellowfin sole fishery. In 2015, the number of CVs entering the BSAI TLAS yellowfin sole directed fishery with no previous participation increased. Combined with the low BSAI TLAS yellowfin sole allocation and the increased number of participating vessels, the fishery closed in 2017 on May 26, the earliest since implementation of the fishery in 2008. Without Council action to limit CVs that may target BSAI TLAS yellowfin sole and deliver its catch to a mothership or CP, there is a continued risk of shorten seasons which increases the incentives for vessels to harvest quickly, with less care, and can increase halibut PSC rates.

The intent of the Council's preferred alternative is to address the recent increase in participation in the BSAI TLAS yellowfin sole directed fishery by reducing fishing pressure in this fishery, which could lengthen the season and reduce halibut PSC. In addition, the Council's preferred alternative balances the need to limit access to the BSAI TLAS yellowfin sole directed fishery to control the pace of fishing with the needs of more recent participants in the fishery by continuing to provide opportunities for AFA CPs and CVs, and non-AFA CVs. The preferred alternative is the most inclusive of the eligibility options considered by the Council that are within the October 13, 2015 control date. The preferred alternative would authorize eight LLP licenses on a maximum of eight CVs to participate in the BSAI TLAS yellowfin sole directed fishery. The inclusiveness of the preferred alternative reduces the need for opportunities for new offshore CV entrants during periods of high BSAI TLAS yellowfin sole allocations, which was the intent of Suboptions 2.1 and 2.2. The preferred alternative would implement a limitation on CVs targeting BSAI TLAS yellowfin sole for delivery to motherships and CPs that could help lengthen the fishery and reduce halibut PSC in the fishery through potential voluntary cooperative agreements between eligible CVs and AFA CPs to fish during periods of lower halibut PSC rates. The Council's preferred alternative continues to provide the production efficiency in the BSAI TLAS yellowfin sole directed fishery realized under the status quo for those Amendment 80 motherships that currently receive CV deliveries of yellowfin sole by lowering the marginal cost of production for each unit of yellowfin sole. The Council's recommendation also limits the potential for spillover effects of increased fishing effort by CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement in the fully utilized BS Pacific cod trawl CV fishery.

In general, this action is expected to mitigate the risk of an increasing race for fish and would provide for efficient utilization of yellowfin sole consistent with National Standard 5. The action is also consistent with the bycatch minimization objectives of National Standard 9.

Why 2015 and not 2016

The recommendation selects 2015 rather than 2016 as the most recent full year of participation. By selecting 2015, the Council is attempting to limit future growth, while also recognizing existing participation. To dampen the effect of speculative entry into the BSAI TLAS yellowfin sole directed fishery, the Council adopted a control date of October 13, 2015, which was published by NMFS in the *Federal Register* 81 FR 72408, November 19, 2015. Although control dates are not binding on future Council actions, the Council very clearly indicated in the notice that this control data could be used to

limit "future access to the offshore sector of the BSAI TLAS yellowfin sole directed fishery. The Council also clearly noted that the control date was intended to "promote awareness that the Council may develop a future management action", and "to provide notice to the public that any current or future access to the offshore sector of the BSAI TLAS yellowfin sole fishery may be affected or restricted, and to discourage speculative participation and behavior in the fishery while the Council considers whether to initiate a management action to future limit access to the fishery."

Why only one year, and not two years of participation

The Council did not select the suboption requiring two years of participation in the BSAI TLAS yellowfin sole directed fishery because it would have substantially limited participation in a manner that is not reflective of the patterns in the fishery and could advantage one specific company. Specifically, Suboption 1.1.2 would limit the number of CVs with LLP licenses assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole to three owned by one company, which raises some concerns about consistency with National Standard 4 to be fair and equitable. In addition, a more restrictive option is not needed to promote conservation, because the Council determined that the number of CVs eligible to participate will not exacerbate the risk of a race for fish developing within the fishery or be likely to increase halibut PSC use and rates within the fishery. The Council's recommendation would limit the potential for an increasingly challenging race for fish and limit the recently observed growth in the CV sector.

Why the change in BSAI TLAS yellowfin sole policy from Amendment 80 Program

Although the Amendment 80 Program recognized that participation by Amendment 80 vessels as motherships could continue, or even increase, the recent shift in the proportion of catch by CVs delivering to motherships is greater than it ever was when Amendment 80 was implemented. The Council noted that it is appropriate to review the policies adopted for BSAI TLAS yellowfin sole under the Amendment 80 Program and the fishing operations in that fishery and if necessary, take action. It was noted in the final rule implementing the Amendment 80 Program, that only one Amendment 80 vessel was receiving and processing catch that was delivered from one CV. As noted in the analysis for that rule, the use of Amendment 80 CPs as motherships has clearly increased since implementation of the Amendment 80 Program in 2008. Also noted in the final rule was the potential for some growth in the BSAI TLAS yellowfin sole directed fishery, but the recent expansion by CVs and Amendment 80 motherships was greater than anticipated by the Council. As a result, the Council recommends action limiting access for CVs targeting BSAI TLAS yellowfin sole for delivery to motherships or CPs.

Why no options for new entrants during periods of high BSAI TLAS yellowfin sole allocation

The Council indicated that options for new entrants during periods of high BSAI TLAS yellowfin sole allocations were not needed or appropriate. Given that CVs have been able to enter the BSAI TLAS yellowfin sole directed fishery from 2008 through 2015 under a wide range of TACs and market conditions, and those CVs are included in the recommended action, the Council did not include options for relieving the limit on entry at higher BSAI TLAS yellowfin sole allocation levels. In was noted by the Council that relieving the limit on entry of CVs into the offshore BSAI TLAS yellowfin sole directed fishery could also exacerbate the conditions that could lead to a race for fish and could increase halibut mortality rates in the fishery. Another reason for not including an option for new entrants is that complications could arise during the TAC setting process as owners of CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and the owners of new CV entrants negotiate a BSAI yellowfin sole TAC recommendation to the Council each year, which would determine whether there would be a fishery for new CV entrants.

The Council considered latent participation in the BSAI TLAS yellowfin sole directed fishery by CVs active in the GOA, but since these CVs have extensive flatfish resources in the GOA that has remained unharvested, the Council did not provide fishing opportunities for these CVs in the BSAI TLAS yellowfin sole directed fishery.

Why this action would limit spillover effects in the BS Pacific cod fishery

The Council heard testimony about the potential impacts of the proposed action on the BS Pacific cod fishery. As noted in the analysis, CVs will enter the BS Pacific cod fishery if there is a perceived economic benefit. By limiting access for CVs in the offshore BSAI TLAS yellowfin sole directed fishery, the Council perceives this action would discourage some new entrants in the BS Pacific cod fishery because these CVs cannot utilize the revenue from the BSAI TLAS yellowfin sole directed fishery to supplement their participation in the BS Pacific cod fishery. CVs would enter the BS Pacific cod fishery only if their perceived benefit was greater than their perceived costs in that fishery.

2.4.3 Council discussion concerning LAPP provisions under MSA

The Council also clarified during the February 2017 meeting that the action alternative does not meet the definition of Limited Access Privilege Program (LAPP) included in section 303A of the Magnuson-Stevens Act. Section 3 of the Magnuson-Stevens Act defines a LAPP as a Federal permit to harvest a quantity of fish representing a portion of the total allowable catch (TAC) of that fishery that may be received or held for exclusive use by a person[2]. This proposed action limits CVs that can harvest BSAI TLAS yellowfin sole and deliver that harvest to a mothership or catcher processor, but does not assign a portion of the TAC for exclusive use by a person. The proposed action does not preclude CVs from harvesting BSAI TLAS yellowfin sole and delivering that harvest to shoreside processors. The proposed action does not limit the amount of BSAI TLAS yellowfin sole harvest for CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole, rather it only limits the number of CVs that can participate in the fishery by limiting the number of LLP licenses assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole. The proposed action does not further limit CPs participating in the BSAI TLAS yellowfin sole directed fishery or assign a portion of the TAC for exclusive use by CPs.

2.5 Methodology for analysis of impacts

The evaluation of impacts in this analysis is designed to meet the requirement of E.O. 12866, which dictates that an RIR evaluate the costs and benefits of the alternatives, to include both quantifiable and qualitative considerations. Additionally, the analysis should provide information for decision makers "to maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach." The costs and benefits of this action with respect to these attributes are described in the sections that follow, comparing the No Action Alternative 1 with the action alternatives. The analyst then provides a qualitative assessment of the net benefit to the Nation of each alternative, compared to no action.

This analysis was prepared using data from the NMFS catch accounting system, which is the best available data to estimate total catch in the groundfish fisheries off Alaska. Total catch estimates are generated from information provided through a variety of required industry reports of harvest and at-sea

[2] Section 3 of the Magnuson-Stevens Act defines a person as any individual (whether or not a citizen or national of the United States), any corporation, partnership, association, or other entity (whether or not organized or existing under the laws of any State), and any Federal, State, local, or foreign government or any entity of any such government.

discard, and data collected through an extensive fishery observer program. In the case of deliveries of BSAI yellowfin sole to motherships by CVs, estimates of catch originate from observer data.
In 2003, NMFS changed the methodologies used to determine catch estimates from the NMFS blend database (1995 through 2002) to the catch accounting system (2003 through present). The catch accounting system was implemented to better meet the increasing information needs of fisheries scientists and managers. Currently, the catch accounting system relies on data derived from a mixture of production and observer reports as the basis of the total catch estimates. The 2003 modifications in catch estimation included providing more frequent data summaries at finer spatial and fleet resolution, and the increased use of observer data. Redesigned observer program data collections were implemented in 2008, and include recording sample-specific information in lieu of pooled information, increased use of systematic sampling over simple random and opportunistic sampling, and decreased reliance on observer computations. Because of these modifications, NMFS is unable to recreate blend database estimates for total catch and retained catch after 2002. Therefore, NMFS is not able to reliably compare historical data from the blend database to the current catch accounting system.

2.6 Description of Fisheries

2.6.1 Description of BSAI Yellowfin Sole Management

The BSAI yellowfin sole fishery was historically managed as a single TAC until 1998 when 7.5% was allocated to the Community Development Quota (CDQ) Program (the allocation increased to 10.7% with the implementation of the Amendment 80 Program in 2008). During this period, NOAA Fisheries credited both directed harvest and the incidental harvest of yellowfin sole against the TAC to prevent harvests from exceeding the TAC. For the non-CDQ allocation, directed fishing was allowed until the direct fishing allowance was reached. After a directed fishery was closed, NOAA Fisheries allowed vessels to retain incidental catch of a yellowfin sole taken in other directed fisheries until the TAC was taken. Retention of incidental catch by each vessel, however, was limited to the maximum retainable amount (MRA), which is the percentage of yellowfin sole incidental catch relative to the retained directed species catch. Catch of a species more than the MRA had to be discarded. If the TAC for yellowfin sole was reached, NOAA Fisheries issued a prohibition on retention for yellowfin sole and all further catch of yellowfin sole had to be discarded. For the CDQ allocations, the CDQ groups manage their yellowfin sole allocations.

Starting in 2008, Amendment 80 established catch shares for several species, including yellowfin sole. Each year, NOAA Fisheries allocates an amount of Amendment 80 species available for harvest, called the initial allowable catch (ITAC), and crab and halibut PSC to the Amendment 80 sector and the BSAI TLAS sector.[3] Allocations made to the Amendment 80 sector are not available for harvest by participants in other fishery sectors and the Amendment 80 sector is precluded from harvesting in the TLAS fisheries (NPFMC, 2007). The Council's intent for establishing the TLAS fisheries was to provide harvesting opportunities for American Fisheries Act (AFA) CPs, AFA CVs, and non-AFA CVs. Any portion of the BSAI TLAS fisheries not fully utilized may be reallocated to the Amendment 80 sector as cooperative quota on the approval of the Regional Administrator, but unused Amendment 80 allocations cannot be reallocated to the BSAI TLAS fisheries. The reallocation provision helps ensure that fishery resources would be allocated and available for harvest to the extent practicable. As noted in Table 2-15, there was reallocation of BSAI TLAS yellowfin sole to the Amendment 80 sector in 2009 for 6,000 mt, 2010 for 20,000 mt, and 2011 for 2,000 mt.

The ITAC represents the amount of TAC for each Amendment 80 species that is available for harvest, after allocations to the CDQ program and the incidental catch allowance (ICA) have been subtracted from

[3] The primary TLAS fisheries are yellowfin sole, rockfish, Pacific cod, pollock, and Atka mackerel.

the TAC. The ICA is set aside for the incidental harvest of an Amendment 80 species by non-Amendment 80 vessels targeting other groundfish species in non-trawl fisheries and in the BSAI TLAS sector fisheries.

Unlike other Amendment 80 species, the Council used a different approach in determining the Amendment 80 allocation and the TLAS allocation for yellowfin sole. The proportion of yellowfin sole ITAC allocated between the Amendment 80 and BSAI TLAS sectors depends on the yellowfin sole ITAC. Presented in Table 2-1 is the BSAI yellowfin sole allocation calculations for 2017 between the Amendment 80 sector and the BSAI TLAS fishery. As the ITAC for BSAI yellowfin sole increases, the proportion of the ITAC assigned to the BSAI TLAS also increases. The total ITAC allocated to the Amendment 80 sector and the BSAI TLAS fishery is determined by adding the sum of the percentage of ITAC allocations.

Table 2-1 2017 allocation of BSAI yellowfin sole for Amendment 80 sector and the TLAS fishery

BSAI yellowfin sole TAC (mt)	154,000			
CDQ allocation(10.7% x TAC) (mt)	16,478			
BSAI yellowfin sole ITAC (mt)	137,522			
BSAI yellowfin sole ICA (mt)	4,500			
Remaining BSAI YFS for allocation to AM80 and TLAS (mt)	133,022			
If the ITAC (after ICA has been removed) is…(mt)	**% of BSAI yellowfin sole allocated to AM80 sector**	**% of BSAI yellowfin sole allocated to the TLAS**	**Amount of BSAI yellowfin sole allocated to AM80 sector (mt)**	**Amount of BSAI yellowfin sole allocated to TLAS (mt)**
87,499	0.93	0.07	81,374	6,125
94,999-87,501	0.875	0.125	6,562	937
102,499-95,000	0.82	0.18	6,149	1,350
109,999-102,500	0.765	0.235	5,737	1,762
117,499-110,000	0.71	0.29	5,324	2,175
124,999-117,500	0.655	0.345	4,912	2,587
133,022-125,000	0.6	0.4	4,813	3,209
Total BSAI yellowfin sole allocation			114,871	18,151

Source: NMFS Final Specifications

TAC = total allowable catch

CDQ = community development quota

TLAS = trawl limited access sector

ITAC = TAC - CDQ

ICA = incidental catch allowance

The intent of increasing yellowfin sole allocations to the BSAI TLAS was to better accommodate major shifts in the yellowfin sole trawl fisheries during periods of high yellowfin sole ITAC. In addition, this approach was thought to provide increasing harvest opportunities for some non-Amendment 80 trawl sectors, while also maintaining some consistency with the historical amount of catch available for the Amendment 80 sector (NPFMC, 2007). Looking at the years considered when the Council was deliberating on Amendment 80 and the BSAI TLAS yellowfin sole allocations (1995 to 2004), two trawl sectors, other than the Amendment 80 sector, stood out as having catch history in the BSAI yellowfin sole fishery. From 1995 to 2004, the AFA CP sector on average harvested 10.6% of the BSAI yellowfin sole fishery and the AFA CV sector on average harvested 3.7% of the fishery. Narrowing the years to 1995 to 1999, the AFA CP sector, on average, harvested 17.8% of the BSAI yellowfin sole fishery, and the AFA CV sector harvested, on average, 6.5% of the fishery. Other than the Amendment 80 sector, the AFA CP and CV sectors were the only other primary participants in the BSAI yellowfin sole fishery during the 1995 to 2004 years.

Table 2-2 provides historical acceptable biological catch (ABC), TAC, ITAC, Amendment 80 and BSAI TLAS allocations for BSAI yellowfin sole, 2003 through 2017.

Table 2-2 BSAI yellowfin sole ABC (mt), TAC (mt), ITAC (mt), AM80 (mt) and TLAS (mt) allocations, 2003 through 2017

Year	ABC	TAC	ITAC*	AM80	BSAI TLA
2003	114,000	83,750	71,188		
2004	114,000	86,075	73,164		
2005	124,000	90,686	77,083		
2006	121,000	95,701	81,346		
2007	225,000	136,000	115,600		
2008	248,000	225,000	200,925	160,413	38,512
2009	210,000	210,000	187,530	146,376	39,154
2010	219,000	219,000	195,567	171,198	22,369
2011	240,000	196,000	175,028	140,875	32,153
2012	239,000	202,000	180,386	142,089	36,297
2013	203,000	198,000	176,814	139,946	34,868
2014	206,000	184,000	164,312	132,205	29,707
2015	239,800	149,000	133,057	120,912	16,165
2016	211,700	144,000	128,592	117,558	14,979
2017	260,800	154,000	137,522	114,871	18,151

Source: NMFS Final Specifications

TLA = trawl limited access

*ITAC = TAC - CDQ

To help facilitate the BSAI TLAS yellowfin sole directed fishery, the Amendment 80 program relieves AFA sideboard limits for yellowfin sole when the yellowfin sole ITAC is equal to or greater than 125,000 metric tons (mt). The Council's intent for removing the BSAI yellowfin sole sideboards was to allow AFA sectors the potential to expand their harvest in the yellowfin sole fishery in periods of diminished availability of pollock (NPFMC, 2007). Because most of the yellowfin sole ITAC was allocated to the Amendment 80 sector for exclusive harvest, the need for AFA sideboard limits was greatly reduced since AFA vessels no longer directly compete with the Amendment 80 sector active in the yellowfin sole fishery.

Below a 125,000 mt ITAC, the yellowfin sole sideboard limits are based on the 1995 through 1997 aggregated retained catch of yellowfin sole for AFA CV sector and AFA CP sector relative to the total catch of yellowfin sole during the same period. The resulting ratios (0.0647 for AFA CVs and 0.230 for AFA CPs) are then multiplied by the available yellowfin sole TAC minus the CDQ allocation. Table 2-3 provides the yellowfin sole sideboard limits for AFA CVs and CPs from 2003 through 2017. Since 2008, the yellowfin sole ITAC has been higher than 125,000 mt, so sideboard limits have not been in place for AFA vessels.

Table 2-3 Yellowfin sole sideboard limits for AFA CVs and CPs from 2003 through 2017

Year	ITAC*	AFA CV	AFA CP
2003	71,188	4,606	16,587
2004	73,164	4,734	17,047
2005	77,083	4,987	17,960
2006	81,346	5,263	18,954
2007	115,600	7,479	26,935
2008	200,925	None	None
2009	187,530	None	None
2010	195,567	None	None
2011	175,028	None	None
2012	180,386	None	None
2013	176,814	None	None
2014	164,312	None	None
2015	133,057	None	None
2016	127,592	None	None
2017	137,522	None	None

Source: NMFS Final Specifications

*ITAC = TAC - CDQ

2.6.1.1 Regulatory History of Amendment 80 Vessels as Motherships

The proposed rule for the Amendment 80 program, published May 30, 2007, (72 FR 30052), included prohibitions limiting Amendment 80 vessels from catching, receiving, and processing fish assigned to the BSAI trawl limited access sector. Although it was clear the Council intended to prohibit Amendment 80 vessels from catching Amendment 80 species in the BSAI TLAS sector, it was unclear if the Council considered or intended that Amendment 80 vessels should serve as processing platform for the BSAI TLAS sector.

Recognizing the Council's intent concerning Amendment 80 vessels as harvesters in the BSAI TLAS sector and the Council's silence on Amendment 80 vessels serving as a processing platform for harvesters in the TLAS sector, NMFS proposed to prohibit any Amendment 80 vessel from catching, receiving, or processing fish assigned to the BSAI TLAS sector. NMFS, as noted in the proposed rule, determined that this prohibition would best meet the Council's recommendation to provide an allocation of ITAC to the Amendment 80 sector, but not encourage the consolidation of fishing or processing operations in the BSAI TLAS sector. Additionally, allowing Amendment 80 vessels to receive and process fish caught by vessels in the BSAI TLAS sector could allow Amendment 80 vessels to serve as motherships (i.e., a vessel that receives and processes groundfish from other vessels), or stationary floating processors (i.e., a vessel operating as a processor that remains anchored or otherwise remains stationary in a single geographic location while receiving or processing groundfish), for the BSAI TLAS sector fleet. This could increase the potential that catch formerly delivered and processed onshore could be delivered and processed offshore. This change in processing operations could have economic effects. NMFS noted that the Council did not specifically address these issues at the time of final Council action. NMFS also noted that combining Amendment 80 and BSAI TLAS sector catch on the same vessel could increase the potential recordkeeping and reporting, and monitoring and enforcement complexities.

The Final Regulatory Flexibility Analysis (dated July 20, 2007) for the Amendment 80 Program noted that several commenters expressed concern about the proposed regulations at § 679.7(o)(1)(ii) that would

have prohibited an Amendment 80 vessel from catching, processing, or receiving Amendment 80 species, crab PSC, or halibut PSC assigned to the BSAI trawl limited access sector. The commenters indicated that this prohibition would limit the existing use of Amendment 80 vessels to receive and process unsorted catch delivery from other vessels. It was also noted by the commenters that the prohibition was not analyzed in the EA/RIR/IRFA at time of Council final action and could have an adverse impact on small entities, and therefore should be removed.

To address the comments, NMFS analyzed the effects of limiting the delivery of catch from the BSAI TLAS sector to Amendment 80 vessels (NPFMC, 2007). NMFS analyzed observer data from 2003 through 2006, a period chosen for analysis because it represented recent processing patterns during that period. The analysis indicates that the practice of delivering unsorted catch from non-Amendment 80 vessels to Amendment 80 vessels from 2003 through 2006 was not widespread. During that time period only one Amendment 80 vessel received unsorted catch from a non-Amendment 80 vessel in each year analyzed. The non-Amendment 80 vessel was owned by the same company that owns that Amendment 80 vessel. NMFS determined that the proposed prohibition would limit the ability of this one entity to continue to deliver unsorted catch from its non-Amendment 80 CV to its Amendment 80 vessel.

The final rule to implement the Amendment 80 Program (72 FR 52668, September 14, 2007) noted that Council intent was not clear regarding the regulation of catch assigned to the BSAI TLAS sector to be received and processed by Amendment 80 vessels. Specifically, the Council did not expressly indicate its intent to limit the delivery of unsorted catch from the BSAI TLAS sector to Amendment 80 vessels. This lack of intent was noted in the preamble to the proposed rule and again at two public workshops on May 23, 2007 (72 FR 27798), and on June 18, 2007 (72 FR 31548), both of which were attended by numerous participants in the Amendment 80 and BSAI TLAS sectors, and a member of the Council. In addition, NMFS provided a review of the proposed rule to the Council at its June 2007 meeting, specifically highlighting the issue of Amendment 80 vessels receiving unsorted catch from BSAI TLAS sector vessels and requesting that the Council provide comments if the proposed rule contravened Council intent. During that meeting, the Council did not indicate that it either intended or did not intend to allow catch from the BSAI TLAS sector to be delivered to Amendment 80 sector vessels. The Council did not provide any comments during the public comment period to indicate that proposed prohibitions on the receipt and processing of unsorted catch from the BSAI TLAS sector by Amendment 80 vessels contravened Council intent.

As noted in the final rule to implement the Amendment 80 Program, NMFS substantially modified the proposed prohibition at § 679.7(o)(1)(ii) to allow the delivery and processing of unsorted catch from the BSAI TLAS sector to Amendment 80 vessels for processing as currently practiced. NMFS based the modification on the additional analysis NMFS conducted and the lack of Council intent to the contrary. This revision accommodated the one entity that NMFS identified as currently receiving unsorted catch from a catcher vessel in the BSAI TLAS sector to continue to do so. NMFS also noted in the final rule that this revision would accommodate potential future growth in the use of Amendment 80 vessels as mothership vessels for vessels in the BSAI TLAS sector.

2.6.1.2 Description of the BSAI TLAS yellowfin sole directed fishery

This section of the analysis examines the offshore participation and effort in the BSAI TLAS yellowfin sole directed fishery. Vessels that participate in the offshore sector of the BSAI TLAS yellowfin sole directed fishery include CVs, CPs, and motherships. Catcher vessels participate in the offshore sector by delivering their catch of yellowfin sole to CPs acting as motherships. Catcher processors participate in the offshore sector by catching and processing yellowfin sole or by receiving and processing deliveries of yellowfin sole from CVs (acting as a mothership). Motherships participate in the offshore sector by receiving and processing deliveries of yellowfin sole from CVs.

Table 2-4 provides data on BSAI TLAS yellowfin sole catch in relation to yellowfin sole ITAC and BSAI TLAS allocation from 2003 through 2017. Prior to implementation of the BSAI TLAS yellowfin sole allocation in 2008, annual target catch of BSAI yellowfin sole by non-Amendment 80 vessels increased from 4,386 mt in 2004 to 22,214 mt in 2007. The increasing BSAI yellowfin sole target catch during this period is likely related to the increasing BSAI yellowfin sole ITAC, which increased from 71,188 mt in 2003 to 115,600 mt in 2007. During the first five years of the BSAI TLAS yellowfin sole directed fishery (2008 through 2012), fishing effort, combined with high allocations, were such that the fishery was not fully utilized. Harvest percentages ranged from a low of 31% in 2009 to a high of 87% in 2010, after accounting for the reapportionment of BSAI TLAS yellowfin sole allocation to the Amendment 80 sector (see Table 2-15 for reapportionments and dates). This was likely due, in part, to a combination of low wholesale prices in 2009 and 2010 (see Table 2-6) and fewer AFA CP vessels active in the fishery likely because of increasing pollock ITAC starting in 2011. Starting in the 2013, the BSAI TLAS yellowfin sole directed fishery was a fully utilized fishery. In 2013, 99% of the BSAI TLAS yellowfin sole allocation was harvested. In 2014, 93% of the BSAI TLAS yellowfin sole allocation was harvested, while in 2015, 2016, and 2017 the percent of allocation harvested was 99%, 98%, and 96% respectively. Table 2-4 also provides annual incidental catch of BSAI yellowfin sole, which has ranged from a low of 232 mt in 2010 to a high of 3,370 mt in 2014. The largest portion of incidental catch occurs in the BSAI TLAS Pacific cod fishery. BSAI yellowfin sole incidental catch is accommodated by the ICA, which in 2017 was 4,500 mt.

Table 2-4 Yellowfin sole ITAC, BSAI TLAS allocation, and target and incidental catch of yellowfin sole BSAI TLAS (2003 through 2017)

Year	YFS ITAC (mt)	BSAI TLA YFS allocation (mt)	BSAI TLA YFS allocation as a % of YFS ITAC	BSAI YFS target catch from 2003-2007[2] & BSAI TLA YFS target catch from 2008-2015 (mt)	BSAI TLA YFS target catch as a % of BSAI TLA allocation	BSAI YFS target catch as a % of YFS ITAC	YFS incidental catch (mt)
2003	71,188			4,461		6	853
2004	73,164			4,386		6	771
2005	77,083	N/A	N/A	7,995	N/A	10	904
2006	81,346			13,361		16	1,206
2007	115,600			22,214		19	887
2008^	200,925	32,512	16	20,017	62	10	1,017
2009^	187,530	33,154	18	10,181	31	5	2,506
2010^	195,567	22,369	11	19,421	87	10	232
2011	175,028	32,153	18	25,485	79	15	1,632
2012	180,386	36,297	20	28,140	78	16	1,698
2013	176,814	34,868	20	34,606	99	20	2,534
2014	164,312	29,707	18	27,720	93	17	3,370
2015	133,057	16,165	12	16,073	99	12	2,691
2016	127,592	14,979	12	14,708	98	12	3,887
2017	137,522	18,151	13	18,593	102	14	1,856

Source: NMFS Final Specifications

Source file: BSAI_Yellowfin(4-17-17)

[1]ITAC = TAC - CDQ

[2]Catch of BSAI YFS target catch by AM80 vessels has been removed from BSAI YFS target catch (2003-2007)

^BSAI TLA YFS allocation was adjusted to account for reapportionment of YFS from the BSAI TLA to Amendment 80 (see Table 4 for amounts reapportioned)

TLA = trawl limited access

YFS = yellowfin sole

2.6.1.3 Halibut PSC in the BSAI TLAS yellowfin sole directed fishery

As part of the Amendment 80 program, a halibut PSC limit is established for the Amendment 80 sector and the BSAI TLAS fisheries (see Table 2-5). Starting in 2016, with the implementation of Amendment 111 to the FMP, the halibut PSC limit apportioned to the Amendment 80 sector is 1,745 mt and the halibut PSC limit for the BSAI TLAS fisheries is 745 mt. Of the 745 mt of halibut PSC apportioned to the BSAI TLAS fisheries during 2016, 150 mt is reserved for the yellowfin sole fishery. Table 2-5 provides the halibut PSC limits for the trawl yellowfin sole fishery from 2003 through 2007. The table also provides the halibut PSC limits for all BSAI TLAS groundfish fisheries, the BSAI TLAS yellowfin sole directed fishery, and the Amendment 80 sector from 2008 through 2017.

Table 2-5 Halibut PSC limit for yellowfin sole trawl fishery (2003 through 2007), and all BSAI TLAS fisheries, BSAI TLAS yellowfin sole directed fishery, and Amendment 80 fisheries (2008 through 2017)

Year	YFS trawl	BSAI TLA total	BSAI TLA YFS*	AM80
2003	886			
2004	886			
2005	886			
2006	886			
2007	886			
2008	N/A	875	241	2,525
2009		875	162	2,475
2010		875	187	2,425
2011		875	167	2,375
2012		875	167	2,325
2013		875	167	2,325
2014		875	227	2,325
2015		875	167	2,325
2016		745	150	1,745
2017		745	150	1,745

Source: NMFS Final Specifications

TLA = trawl limited access

YFS = yellowfin sole

* BSAI TLA YFS halibut PSC limit is part of the BSAI TLA total halibut PSC limit

The process for reallocating halibut PSC limits in the BSAI groundfish fisheries varies by sector/fishery. For the Amendment 80 sector, the Regional Administrator may reallocate a portion of the halibut PSC limit from the BSAI TLAS fisheries to the Amendment 80 sector if the Regional Administrator determines it is appropriate. As noted in Table 2-15, halibut PSC was reallocated from the BSAI TLAS fisheries to the Amendment 80 sector in 2010, 2013, and 2014.

For the BSAI TLAS fisheries, for halibut PSC to be reallocated between BSAI TLAS fisheries, the Regional Administrator, after determining some portion of halibut PSC in a BSAI TLAS fishery will go unused, and after consultation with the Council, and in accordance with § 679.21(e)(3)(i)(B), may reapportion that halibut PSC to another BSAI TLAS fishery by publishing a temporary rule. As an example, on June 25, 2014, NMFS published a temporary rule to reapportion a projected unused 60 mt of the 2014 halibut PSC limit from the BSAI TLAS Pacific cod fishery to the BSAI TLAS yellowfin sole directed fishery. This action was necessary to provide opportunity for harvest of the 2014 BSAI TLAS

yellowfin sole allocation by participating vessels. Table 2-15 provides details on the annual reallocations of halibut PSC limits.

2.6.2 Target Products and Markets

Table 2-6 provides production information and wholesale prices for the BSAI TLAS yellowfin sole directed fishery from 2003 through 2015. The primary products produced from the BSAI yellowfin sole fishery are headed and gutted (78%) and frozen whole fish (21%). Almost all yellowfin sole is exported to China where they are processed into fillets. These twice-frozen fillets are primarily sold as frozen skinless, boneless 2-4 oz. fillets to distributors who sell the fish to retain and foodservice operators in Europe, Japan, and the U.S. (AFSC, 2016).

Table 2-7 provides annual estimated first wholesale value of the BSAI TLAS yellowfin sole directed fishery from 2003 through 2015. The estimated first wholesale value has ranged from a low of $2.6 million in 2003 to high of $26.7 million in 2013. In recent years first wholesale gross revenue of BSAI yellowfin sole has been in decline. This decline is due primarily to an increase in whitefish competition (AFSC, 2016). The price for BSAI yellowfin sole is highly dependent on when it is harvested (AFSC, 2016). Fish caught in the winter, prior to spawning, command higher prices, while flesh quality declines significantly during and after spawning, resulting in lower prices (AFSC, 2016).

Table 2-6 Production and wholesale prices for BSAI TLAS yellowfin sole directed fishery from 2003 through 2015

Year	H&G			Whole			Total	
	Price per pound	Pounds	Percent of total	Price per pound	Pounds	Percent of total	Price per pound	Pounds
2003	0.40	61,101,047	68	0.30	21,249,125	24	0.39	89,880,665
2004	0.47	62,118,170	71	0.35	23,494,155	27	0.44	86,973,075
2005	0.64	73,617,171	69	0.50	32,859,389	31	0.60	107,283,757
2006	0.66	85,904,595	66	0.51	42,816,237	33	0.61	130,177,777
2007	0.66	92,668,848	66	0.51	46,985,794	34	0.61	139,654,642
2008	0.61	120,735,619	83	0.49	25,282,075	17	0.59	146,125,719
2009	0.49	104,974,070	86	0.44	16,358,114	13	0.49	122,159,999
2010	0.54	111,079,619	80	0.41	26,811,905	19	0.52	138,856,135
2011	0.65	149,356,200	82	0.55	33,016,842	18	0.63	183,004,595
2012	0.63	146,442,117	80	0.63	37,294,222	20	0.63	183,736,339
2013	0.50	161,909,026	97	0.46	4,797,440	3	0.50	166,706,465
2014	0.45	149,799,808	81	0.46	36,022,497	19	0.45	185,822,304
2015	0.48	137,488,589	91	0.45	13,902,194	9	0.48	151,390,782

Source: BSAI_Yellowfin_Prices(9-16)

Table 2-7 Estimated annual first wholesale value of BSAI TLAS yellowfin sole directed fishery from 2003 – 2015

Year	Estimated annual wholesale value ($)
2003	2,643,742
2004	2,875,157
2005	6,592,890
2006	12,043,983
2007	18,310,864
2008	13,509,660
2009	7,639,468
2010	13,606,860
2011	22,265,966
2012	24,481,344
2013	26,699,930
2014	17,811,813
2015	10,639,780

Source: Catch Accounting

2.7 Analysis of Impacts

This section presents a discussion of aspects of the economic and distributional effects that might be expected to occur because of limiting access for trawl CVs targeting BSAI yellowfin sole TLAS. The impetus for the proposed action by the Council originated from concern by historical participants in the BSAI TLAS yellowfin sole directed fishery indicating that several new vessels entered the fishery during 2015, and that these new entrants were negatively impacting the ability of historical participants to maintain yellowfin sole harvest and may increase halibut PSC in the fishery. Limiting access may help ensure that the TLAS fishery continues to provide benefits to eligible as well as more recent participants, mitigate the risk that a "race for fish" could develop, and help maintain the consistently low rates of halibut PSC in this fishery

Assessing the effects of the alternatives and options involves some degree of speculation. In general, the effects arise from the actions of individual participants in the fisheries, under the incentives created by different alternatives and options. Predicting these individual actions and their effects is constrained by incomplete information concerning the fisheries, including the absences of complete economic information and well-tested models of behavior under different institutional structures. In addition, exogenous factors, such as stock fluctuations, market dynamics, and macro conditions in the global economy, will influence the response of the participants under each of the alternatives and options.

2.7.1 Alternative 1, No Action

Alternative 1 is the no action alternative. This alternative would not further limit access for trawl CVs targeting BSAI TLAS yellowfin sole for delivery of the catch to a mothership or catcher processor. Under this alternative, CVs that are active in the BSAI TLAS yellowfin sole directed fishery could continue to be active in the fishery for the foreseeable future. It would also be possible for additional vessels to enter the fishery in the future. To understand the impacts of this alternative, this section provides background information at the sector level that is intended to characterize the status quo alternative.

2.7.1.1 BSAI TLAS yellowfin sole directed fishery

The BSAI TLAS yellowfin sole directed fishery is almost entirely an offshore fishery composed of two groups: 1) AFA CPs, and 2) AFA and non-AFA CVs that deliver to CPs acting as motherships. Prior to

2009, there were also two stationary floating processors that participated in the fishery as motherships, but these processors have not participated in the fishery since 2008.

Looking first at the CPs, prior to 2008, the number of vessels ranged from 3 in 2003 to 9 in 2007. Since implementation of the BSAI TLAS yellowfin sole directed fishery in 2008, the number of CPs has ranged from a low of 8 in 2009 and 2013 to a high of 12 in 2008. In total, there were 13 unique CPs that participated in the BSAI yellowfin sole fishery from 2003 through 2017. All participating CPs are AFA vessels. Table 2-8 provides annual participation of these CPs from 2003 through 2017.

From a harvesting perspective, CPs have been a major participant in BSAI TLAS yellowfin sole directed fishery. In fact, up to 2015, CPs harvested 85% of the BSAI TLAS yellowfin sole catch. However, since 2015, the CP sector's percent of the BSAI TLAS yellowfin catch has diminished to an average of 54%. As noted in Table 2-9, in 2015, 7 CPs harvested 8,875 mt of yellowfin sole in the BSAI TLAS fishery, which is 55% of the BSAI TLAS allocation. In 2016, five CPs harvested 7,716 mt of yellowfin sole in the BSAI TLAS fishery, which is 51% of the BSAI TLAS allocation. Looking at 2017, three CPs have harvested 7,758 mt of BSAI TLAS yellowfin sole, which is 42% of the fishery.

Weekly catch of BSAI TLAS yellowfin sole for the CPs from 2008 through 2017 has also changed. During the first three years of the BSAI TLAS yellowfin sole directed fishery, CPs fished from January 20 through February and in some cases through the months March and April, with a peak harvest generally in week 13. The remainder of the year, nearly all the CPs did not participate in the BSAI TLAS yellowfin sole directed fishery. Starting in 2011, the character of the fishery changed from a single two-month fishery at the start of the new fishing year for all participating CPs to two distinct fishing patterns. Looking at the first pattern, fishing in the BSAI TLAS yellowfin sole directed fishery by CP vessels is compressed to generally two weeks starting on January 20 with a peak harvest during week 4. Under the second pattern, fishing in the BSAI TLAS yellowfin sole CP fishery stretches all year, has no identifiable peak harvest week, and generally is composed of only two CP vessels. Of the two CP fishing patterns in the BSAI TLAS yellowfin sole directed fishery, the CP vessels fishing all year, in general, harvested a larger share of the total CP harvest of BSAI TLAS yellowfin sole. Of these two CPs, one focuses primarily on the BSAI TLAS yellowfin sole directed fishery, while the other CP splits its time between the AI Pacific cod fishery and the BSAI TLAS yellowfin sole directed fishery. However, with the implementation of Amendment 113 to the FMP for BSAI groundfish on November 23, 2016, which sets aside a portion of the AI Pacific cod total allowable catch for harvest by vessels directed fishing and deliver of their catch to shoreside processor located in the AI for processing, that CP could be displaced from the AI Pacific cod fishery under certain conditions and therefore increase its time in the BSAI TLAS yellowfin sole directed fishery.

Given that participating AFA CPs focus primarily on the BS pollock fishery, Table 2-9 includes annual BS pollock ITAC as an indicator of participation in the BSAI TLAS yellowfin sole directed fishery. As seen in Table 2-9 and Figure 2-1, the number of participating AFA CPs in the BSAI TLAS yellowfin sole directed fishery has been as low as three vessels during years of high BS pollock ITAC and as high as 12 during years of low BS pollock ITAC. For many years, however, the vessel counts of AFA CPs do not appear to be inversely related to BS pollock ITAC. Thus, using BS pollock ITAC as measure of participation in the BSAI TLAS yellowfin sole directed fishery will likely provide mixed results.

In summary, under the status quo alternative, AFA CPs will likely continue to participate in the BSAI TLAS yellowfin sole directed fishery. Their participation levels in the BSAI TLAS yellowfin sole directed fishery will, in some degree, likely depend on the BSAI pollock ITAC levels, but are more likely dependent on specific business and operating circumstances as well as outside economic factors such as markets for yellowfin sole. During periods of low BS pollock ITAC the CPs could have greater levels of

participation in the BSAI TLAS yellowfin sole directed fishery, while participation in the BSAI TLAS yellowfin sole directed fishery could diminish during periods of high BS pollock ITAC.

Table 2-8 Years catcher processors participated in the BSAI yellowfin sole fishery (2003-2007) and the BSAI TLAS yellowfin sole directed fishery (2008 through 2017)

Catcher processor	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total of years active
Vessel 1	X					X										2
Vessel 2	X	X	X	X	X	X		X	X	X	X	X	X	X	X	13
Vessel 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X		14
Vessel 4		X	X	X	X	X	X		X	X	X	X	X	X	X	12
Vessel 5		X	X	X	X	X	X	X								7
Vessel 6			X	X	X	X		X	X	X	X	X	X	X		11
Vessel 7				X	X	X	X	X	X	X		X				8
Vessel 8					X	X		X		X	X	X	X			7
Vessel 9					X	X	X	X	X	X	X	X				8
Vessel 10						X	X	X	X							4
Vessel 11						X	X		X	X	X	X	X	X	X	9
Vessel 12						X	X		X	X	X	X	X			7
Vessel 13								X		X		X				3
Annual total	3	4	5	6	8	12	8	9	9	10	8	10	7	5	3	

Source file: BSAI_Yellowfin (4-17-17)

Table 2-9 Vessel count and catch for BSAI TLAS yellowfin sole directed fishery, 2003 through 2017

Year	BS Pollock ITAC[1] (mt)	BSAI YFS ITAC[1] (mt)	BSAI TLA YFS allocation (mt)	Offshore activity						
				CPs		CVs			Mothership vessel count in the BSAI TLA YFS fishery	BSAI YFS target catch from 2003-2007[2] & BSAI TLA YFS target catch from 2008-2017 (mt)
				Vessel count	Harvest BSAI YFS from 2003-2007[2] and BSAI TLA YFS from 2008-2017 (mt)	Total CV count (delivering to motherships)	AFA CV count	Harvest BSAI YFS from 2003-2007[2] and BSAI TLA YFS from 2008-2017 (mt)		
2003	1,342,584	71,188		3	*	0	0	*	0	4,461
2004	1,342,800	73,164		4	*	2	1	*	2	4,386
2005	1,330,650	77,083	N/A	5	*	1	0	*	1	7,995
2006	1,336,500	81,346		6	*	4	3	*	2	13,361
2007	1,254,600	115,600		8	*	3	1	*	2	22,214
2008^	900,000	200,925	32,512	12	*	3	0	*	2	20,017
2009^	733,500	187,530	33,154	8	*	1	0	*	1	10,181
2010^	731,700	195,567	22,369	9	*	0	0	*	0	19,421
2011	1,126,800	175,028	32,153	9	*	2	0	*	1	25,485
2012	1,080,000	180,386	36,297	10	*	3	0	*	1	28,140
2013	1,122,300	176,814	34,868	8	*	3	0	*	1	34,606
2014	1,140,300	164,312	29,707	10	*	3	0	*	1	27,720
2015	1,179,000	133,057	16,165	7	8,875	6	2	7,202	5	16,073
2016	1,206,000	127,592	14,979	5	7,716	9	4	7,011	6	14,708
2017	1,210,500	137,522	18,151	3	7,758	8	3	10,835	7	18,593

Source file: BSAI_Yellowfin(4-17-17)

*Denotes confidential data

[1]ITAC = TAC - CDQ

[2]Catch of BSAI YFS target catch by AM80 vessels has been removed from BSAI YFS target catch (2003-2007)

^BSAI TLA YFS allocation was adjusted to account for reapportionment of YFS from the BSAI TLA to Amendment 80 (see Table 4 for amounts reapportioned)

TLA = trawl limited access

YFS = yellowfin sole

Figure 2-1 Vessel count of CPs participating in the BSAI TLAS yellowfin sole directed fishery and BSAI pollock TAC (mt) from 2003 through 2017

As for trawl CV participation in the BSAI yellowfin sole fishery and BSAI TLAS yellowfin sole directed fishery from 2003 through 2017, there were fewer CVs on an annual basis than the CPs, and they did not participate in the fishery as often as the CPs. Prior to 2008, the number of CVs ranged from one in 2005 to four in 2006. Since implementation of the BSAI TLAS yellowfin sole directed fishery in 2008, the number of CVs has ranged from a low of zero in 2010 to a high of nine in 2016. In total, there were sixteen unique CVs that participated in the BSAI yellowfin sole fishery from 2003 through 2017. Of these sixteen CVs, eight were AFA vessels. As noted in Table 2-10, 11 CVs participated in the BSAI TLAS yellowfin sole directed fishery (2008 – 2017) at least one year. Of these 11 CVs that participated in the yellowfin sole BSAI TLAS fishery, three vessels had six or more years in that fishery.

In recent years, the number of CVs participating in the BSAI TLAS yellowfin sole directed fishery has more than doubled. The increase in the number of CVs is due primarily to the increase in motherships entering the fishery likely seeking greater processing opportunities. In 2015, six CVs harvested 7,202 mt of yellowfin sole in the BSAI TLAS fishery, which is 45% of the BSAI TLAS yellowfin sole allocation, and is significantly higher than the sector's average annual percent of total BSAI TLAS yellowfin sole catch of 17% from 2008 through 2014. Of those six vessels, three were new entrants to the fishery. In 2016, nine CVs harvested 7,011 mt of yellowfin sole in the BSAI TLAS fishery, which was 48% of the BSAI TLAS yellowfin sole allocation. Of those nine CVs, one was a new entrant to the fishery and two vessels reentered the fishery, last participating in 2004 and 2008, respectively. Looking at the 2017 fishery, eight CVs harvested 10,835 mt of yellowfin sole, which is 58% of the fishery. Of those eight CVs, one was a new entrant to the fishery.

Table 2-10 Years CVs delivering to motherships participated in the BSAI yellowfin sole fishery (2003-2007) and the BSAI TLAS yellowfin sole directed fishery (2008 –2017)

Catcher vessel	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total of years active
Vessel 1		X	X	X	X	X								X	X	6
Vessel 2						X										1
Vessel 3						X	X		X	X	X	X	X	X	X	8
Vessel 4										X	X	X	X	X	X	5
Vessel 5									X	X	X	X	X	X	X	6
Vessel 6													X	X	X	2
Vessel 7													X	X	X	2
Vessel 8													X	X	X	2
Vessel 9														X		1
Vessel 10		X												X		2
Vessel 11				X												1
Vessel 12				X												1
Vessel 13				X												1
Vessel 14					X											1
Vessel 15					X											1
Vessel 16															X	1
Annual total	0	2	1	4	3	3	1	0	2	3	3	3	6	9	8	

Source file: BSAI_Yellowfin (4-17-17)

In February 2017, the Council requested tables showing target fisheries for CVs that have historically participated in the BSAI yellowfin sole fishery from 2003 through 2017. To that end, Table 2-11 and Table 2-12 provide participation in the primary target fisheries in the BSAI and GOA from 2003 through 2017 for CVs that have historically targeted BSAI yellowfin sole. The targets are indicated as a letter or a group of letters for multiple targets in each cell of the tables arranged in order of largest to smallest target in volume (see footnote following each of the tables). The absence of a letter indicates the CV did not have any groundfish targets in that FMP area that year.

Looking first at the BSAI (see Table 2-11) prior to 2008, CVs with history in the BSAI yellowfin sole fishery tended to focus their fishing effort on pollock and Pacific cod. Starting in 2008 and continuing through 2014, most CVs with BSAI TLAS yellowfin sole history continued to focus their fishing effort on pollock and Pacific cod, but a few CVs expanded their fishing effort to include targets in BSAI TLAS Atka mackerel, and AI TLAS Pacific ocean perch. In 2015 and continuing through 2017, the number of CVs with targets in BSAI TLAS Atka mackerel, and AI TLAS Pacific ocean perch expanded to include the new entrants to the BSAI yellowfin sole TLAS fishery. Other BSAI fisheries targeted by many of these same CVs include maximum retainable allowance (MRA) fisheries for rock sole, flathead sole, arrowtooth flounder, Kamchatka flounder, and Alaska plaice.[4]

In the GOA (see Table 2-12), CVs with history in the BSAI yellowfin sole fishery were fewer. Most of these CVs tended to focus their fishing effort on pollock, but three CVs also targeted other fisheries, which included rockfish, Pacific cod, shallow-water flatfish, and arrowtooth flounder in the GOA.

[4] Included in Table 2-11 are a few MRA species like BS pollock, BSAI rock sole and BSAI flathead sole. These MRA species are often labeled as a target if the amount of BSAI TLAS yellowfin sole in the haul is less than 70%, while BSAI MRA rock sole or flathead sole are the next largest percentage of species in the haul.

Table 2-11 BSAI target fisheries for CVs that participated in the BSAI yellowfin sole fishery (2003-2007) and the BSAI TLAS yellowfin sole directed fishery (2008-2017)

Catcher vessel	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Vessel 1		yc	yrc	yr	yc	cy		cpa	ca				ca	cy	yc
Vessel 2				c	c	cy	c	c	c	c	c	c		c	c
Vessel 3					rakc	ycakr	ackyr	ack	ayckm	ycakpr	ycarp	ycakrp	ycak	yacrl	cay
Vessel 4										yackr	ycarpe	ycakr	ycakrp	ayckr	cyar
Vessel 5						c	ck	ck	ycakr	ycael	kcyaw	ckya	cyakr	ycrka	ycp
Vessel 6	p	pc	pc	pc	pc	pc	pc	pc	pc	pc	pc	pc	cpy	pycr	pycr
Vessel 7													ykra	yackr	yacr
Vessel 8	pc	pc	pc	pc	pc	pc	c	pc	c	cp	c	c	pyc	pcry	pcyl
Vessel 9	pc	pc	pc	pc	pc	pc	p	pc	p	pc	pc	cp	pc	cpyr	pc
Vessel 10	pc	pcy	pc	pc	pc	cp	c	pc	cp	c	c	c	c	cpry	pc
Vessel 11	pc	pc	p	py	p	p	p	p	p	p	p	p	p	p	p
Vessel 12	p	p	p	py	p	p	p	p	p	p	p	p	p	p	p
Vessel 13	c	c	c	cy	c	c	c	c							
Vessel 14	c				y				c	c					c
Vessel 15	pc	pc	p	p	py	p	p	p	p	p	p	p	pc	p	
Vessel 16	pc	pc	pc	pc	pc	pc	pc	p	pc	pc	pc	pc	pc	pc	pcy

Source file: YSOL_TGTs(4-11)

y=yellow fin sole

c = Pacific cod target

a = Atka mackerel

k = Pacific ocean perch

r = rocksole

p = pollock

w = arrow tooth flounder

l = flathead sole

m = Kamchatka

e = Alaska plaice

Table 2-12 GOA target fisheries for CVs that participated in the BSAI yellowfin sole fishery (2003-2007) and the BSAI TLAS yellowfin sole directed fishery (2008-2017)

Catcher vessel	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Vessel 1	cw	kpc	hckow	pkwhcl	hpc	hwcpob	pcwh		pc	pkcwh	pcks	pkcbh	pks	ckp	
Vessel 3						k									
Vessel 5						wpc									
Vessel 8	p						p	p	p	p	p	p			
Vessel 10	p					p					p	p	p	p	p
Vessel 13	p	p	p	p	p	p	p	p			p				
Vessel 14	hpck	pkchw	pkwc	phkc	hpck	hpck	hwpck	pchwlk	pcwhk	pckhl	pckh	pck	pcbk	cwkcphs	pc
Vessel 15	kcp	pkch	pwkc	pwkhc	pkhc	hcwkpl	hpkcsw	pcwks	pckh	pkcs	p	pkh	p	p	p

Source file: YSOL_TGTs(4-11)

c = Pacific cod target

p = Pollock target

w = arrow tooth flounder

h = shallow-water flatfish

k = rockfish

s = sablefish

l = flathead sole

o = other species

Harvest patterns for CVs in the BSAI TLAS yellowfin sole directed fishery have changed over time. During the 2008 fishing season, the CVs participated in the BSAI TLAS yellowfin sole directed fishery from March until December. During the next two years, the CVs participated in the BSAI TLAS yellowfin sole directed fishery in April and in September and October. Starting in 2012, CVs generally

participated in the BSAI TLAS yellowfin sole directed fishery throughout the entire year until the fishery closed to directed fishing.

The BSAI TLAS yellowfin sole directed fishery and the BSAI Pacific cod fishery have two different fishing periods. As noted above, since 2012, CVs generally participate in the BSAI TLAS yellowfin sole directed fishery throughout the entire year, while CVs in the BSAI Pacific cod fishery tend to focus their fishing effort during the first three or four months of the year. There is some overlap in fishing effort by the CVs in both fisheries.

Another group of vessels that participate in the offshore yellowfin sole fishery include CPs acting as motherships and floating processors. These vessels take deliveries of harvested BSAI yellowfin sole from trawl CVs at-sea for processing. Participation in the BSAI yellowfin sole fishery and the BSAI TLAS yellowfin sole directed fishery by this group of vessels can be characterized as limited from 2003 through 2017 (see Table 2-13). Prior to implementation of the BSAI TLAS yellowfin sole directed fishery in 2008, only three motherships participated in the fishery, of which two were floating processors. After implementation of the BSAI TLAS yellowfin sole directed fishery in 2008, the number of participating vessels ranged from zero in 2010 to seven in 2016 and 2017. Only one mothership, an Amendment 80 CP, participated in the fishery prior to 2015. Starting in 2015, the number of participating motherships expanded to include four new entrants for a total five motherships. These new mothership entrants are Amendment 80 CPs. In 2016, in addition to the existing motherships that participated in 2015, there were two new mothership entrants, an AFA CP and an Amendment 80 CP, for a total of seven motherships. For 2017, there were a total of seven motherships participating in the fishery, one of which was a new mothership entrant from the Amendment 80 sector. This expansion in the number of motherships in the BSAI TLAS yellowfin sole directed fishery provided increased opportunities for CV deliveries, which is reflective in the increased number of CVs that participated in 2015, 2016, and 2017 (see Table 2-10) and the higher proportion of BSAI TLAS yellowfin sole harvested by the CV sector in 2015, 2016, and 2017 relative to previous years.

Table 2-14 provides annual processing activity in BSAI targets from 2003 through 2017 for motherships that have processing history in the BSAI TLAS yellowfin sole directed fishery. The targets are indicated as a letter or a group of letters for multiple targets in each cell of the tables arranged in order of largest to smallest target by volume. The absence of a letter indicates the mothership did not have any processing in targets in the BSAI for that year.

Prior to 2015, one mothership processed harvest in numerous BSAI target fisheries. These target fisheries included BSAI TLAS Atka mackerel, BSAI Pacific cod, and AI TLAS Pacific ocean perch and MRA fisheries like BS pollock, BSAI rock sole, and BSAI flathead sole. All other motherships limited their processing activity to mostly Pacific cod. With the addition of new mothership entrants in the BSAI TLAS yellowfin sole directed fishery starting in 2015, some these new mothership entrants also processed other targets like AI TLAS Pacific ocean perch, and BSAI TLAS Atka mackerel, as well as MRA species like BSAI rock sole, BSAI flathead sole, and BS pollock.

A potential reason for the recent expansion in mothership activity in the BSAI TLAS yellowfin sole directed fishery could be, in part, due to increased production efficiencies from processing both BSAI TLAS yellowfin sole and Amendment 80 yellowfin sole at the same time. Weekly production data shows that all five motherships that processed BSAI TLAS yellowfin sole deliveries also harvested and processed Amendment 80 yellowfin sole allocation in 2015. Processing both BSAI TLAS yellowfin sole deliveries and Amendment 80 yellowfin sole at that same time likely results in a lower marginal cost of production for each unit of yellowfin sole. Specifically, the gains in production efficiency result from better utilization of the processing factory, which then results in more throughput of yellowfin sole in a 24-hour period. This is an important element in a low value, high abundance fishery like yellowfin sole.

The gains in production efficiency and throughput likely contribute to higher net revenue, which is crucial for motherships to stay profitable.

Another potential reason for the expansion in mothership activity in the BSAI TLAS yellowfin sole directed fishery is that these motherships enjoy the benefit of rationalization to pursue additional revenue opportunities in few remaining open access fisheries in the BSAI, which includes the BSAI TLAS yellowfin sole directed fishery. Rationalization has provided benefits to motherships participating in the BSAI TLAS yellowfin sole directed fishery, affording opportunities for consolidation, thus freeing some processing capacity to target and process non-rationalized BSAI groundfish fisheries like BSAI TLAS yellowfin sole. Other groundfish targets that are processed by these motherships include Pacific cod, Atka mackerel, Pacific ocean perch, and MRA species like rock sole, flathead sole, and pollock. Given the remaining revenue opportunities for motherships is generally limited to these few fisheries, motherships that have the benefit of rationalization, will likely pursue processing in the BSAI TLAS yellowfin sole directed fishery and other BSAI targets if they perceive potential economic profits.

Recognizing that the production efficiency gains of processing CV deliveries of BSAI TLAS yellowfin sole while utilizing rationalization benefits to pursue additional revenue opportunities as a mothership are likely the primary reasons for the recent expansion in mothership activity in the BSAI TLAS yellowfin fishery, that same reasoning can also explain why there is likely some potential for additional motherships to enter the fishery and by extension more CVs to enter the fishery in the future under the status quo. Many of the smaller Amendment 80 vessels are likely at full processing capacity with their Amendment 80 allocations and likely have little incentive to expand their production to include unsorted CV catch from the BSAI TLAS yellowfin sole directed fishery. However, there is the potential for new more highly efficient, higher capacity Amendment 80 replacement vessels to enter the BSAI TLAS yellowfin sole directed fishery in the future. Currently there are two Amendment 80 replacement vessels under construction. In addition, there are five latent Amendment 80 licenses that could be assigned to new Amendment 80 replacement vessels in the future. All combined, there could be a potential of seven new Amendment 80 vessels that could enter the BSAI TLAS yellowfin sole directed fishery as a mothership, which could provide harvest opportunities for more CVs to enter the fishery. Utilizing Table 2-10 and Table 2-13, each mothership generally supported one to three CVs in the BSAI TLAS yellowfin sole directed fishery. If all seven of the replacement Amendment 80 vessels enter the BSAI TLAS yellowfin sole directed fishery as motherships, seven to 21 more CV vessels could enter the fishery. These estimates of new mothership and CV entrants into the BSAI TLAS yellowfin sole likely represent the maximum potential given the limited economic opportunities in the fishery. Limited yellowfin sole ITACs and first wholesale value, and the requirement to find and maintain buyers for harvesters and processors are all factors the limit the potential opportunity for new entrants in this fishery. While these factors could limit new entry and mothership and CV participation in the BSAI TLAS yellowfin sole directed fishery could continue at current levels under the status quo, there is potential for one or both of the Amendment 80 CPs currently under construction to enter the fishery in the future along with additional CVs to support their processing activities.

Table 2-13 Years mothership vessels participated in the BSAI yellowfin sole fishery (2003-2007) and the BSAI TLAS yellowfin sole directed fishery (2008-2017)

Mothership	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total of years active
Vessel 1		X														1
Vessel 2	X	X	X	X	X	X	X		X	X	X	X	X	X	X	13
Vessel 3				X	X	X										3
Vessel 4													X	X	X	2
Vessel 5													X	X	X	2
Vessel 6													X	X	X	2
Vessel 7													X	X	X	2
Vessel 8														X		1
Vessel 9														X	X	2
Vessel 10															X	1
Annual total	1	2	1	2	2	2	1	0	1	1	1	1	5	7	7	

Source file: BSAI_Yellowfin (4-17-17)

Table 2-14 BSAI target fisheries for motherships that participated in the BSAI yellowfin sole fishery (2003-2007) and the BSAI TLAS yellowfin sole directed fishery (2008 – 2017)

Mothership	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Vessel 1		y													
Vessel 2	y	yc	yrw	yr	raykc	ycakr	acykr	acr	ayckrm	yackrpel	yckarpew	ycakrp	ycakrp	yrcakl	cyar
Vessel 3				y	y	y									
Vessel 4						c							ykar	cykar	yac
Vessel 5								k	c	c	c		yrak	yacr	ycr
Vessel 6													y	yrcp	ycr
Vessel 7													y	rywc	cyrl
Vessel 8	c	c	c	c	c	c	c	cp	c	c		clr	c	cypr	c
Vessel 9														ayk	ycp
Vessel 10														ac	cy
Annual total	1	2	1	2	2	2	1	0	1	1	1	1	5	7	7

Source file: MSHIP_TGT(4-11-17)-2

y=yellowfin sole

c = Pacific cod target

a = Atka mackerel

k = Pacific ocean perch

r = rocksole

p = pollock

w = arrowtooth flounder

l = flathead sole

m = Kamchatka

e = Alaska plaice

2.7.1.2 Halibut PSC mortality in BSAI TLAS yellowfin sole directed fishery

As with other BSAI groundfish fisheries, the halibut PSC limit has the potential to close the BSAI TLAS yellowfin sole directed fishery to directed fishing, or move fishing activity out of a preferred fishing area to avoid reaching the limit. NMFS monitors halibut PSC limits in this fishery, and may close or otherwise restrict trawl harvests in this fishery if PSC limits are projected to be reached. Fishery closures due to reaching halibut PSC limits can limit harvest of the yellowfin sole ITAC and reduce overall revenue to vessel operators and crew. As vessel operators seek to maximize harvest of yellowfin sole ITAC, they may accelerate fishing operations to maximize harvest of yellowfin sole ITAC before the halibut PSC limit is reached. New entrants to the fishery may exacerbate the incentives for operators to accelerate fishing operations to maximize harvest of yellowfin sole and may result in earlier or more frequent closures or restrictions due to halibut PSC.

Table 2-15 provides fishery closure dates for the BSAI yellowfin sole fishery (for both Amendment 80 and BSAI TLAS from 2008 through 2017), fishery closure dates for the yellowfin sole trawl fishery (from 2003 through 2007), and rollover amounts of BSAI TLAS yellowfin sole and halibut PSC. As noted in the table, BSAI yellowfin sole was reallocated to the Amendment 80 sector in 2009, 2010, and 2011, while halibut PSC was reallocated from the BSAI TLAS fisheries to the Amendment 80 sector in 2010, 2013, and 2014.

As indicated in Table 2-15, the BSAI TLAS yellowfin sole directed fishery has generally remained open most of the year, closing in November or December. The only exceptions were in 2014, 2016, and 2017. In 2014, the fishery closed on May 15 to prevent exceeding the halibut PSC limit apportioned to the fishery. On June 18, 2014, 60 mt of halibut PSC was reapportion from the BSAI TLAS Pacific cod and pollock fisheries to the BSAI TLAS yellowfin sole directed fishery, which allowed the BSAI TLAS yellowfin sole directed fishery to open on June 20, and remain open for the rest of 2014. In 2016, the BSAI TLAS yellowfin sole directed fishery closed on June 8 because the fleet harvested the BSAI TLAS yellowfin sole TAC. In 2017, the fishery closed on May 26 because the fleet harvested the BSAI TLAS yellowfin sole TAC.

As seen in Table 2-16, there is a direct relationship between halibut mortality in the BSAI TLAS yellowfin sole directed fishery and the harvest of BSAI TLAS yellowfin sole. As the harvest of BSAI TLAS yellowfin sole increases, so does halibut mortality. For example, in 2013, harvest of BSAI TLAS yellowfin sole directed fishery was the highest since 2008 at over 34,600 mt and the associated halibut mortality in that fishery was 185 mt, which was the second highest amount of halibut mortality from 2008 through 2016. During that year, halibut mortality in the BSAI TLAS yellowfin sole directed fishery exceeded the halibut PSC limit by 18 mt.[5] In 2014, over 27,000 mt of BSAI TLAS yellowfin sole was harvested with a halibut mortality of 194 mt. During that year, 60 mt of halibut PSC limit was reapportioned from the BSAI TLAS Pacific cod fishery to the BSAI TLAS yellowfin sole directed fishery, which allowed NMFS to reopen the BSAI TLAS yellowfin sole directed fishery.

In contrast to those years of high BSAI TLAS yellowfin sole harvest and halibut mortality, 2009 saw only 95 mt of halibut mortality for 10,181 mt of BSAI TLAS yellowfin sole harvested. In another example, 2015 saw 122 mt of halibut mortality for a harvest of over 16,000 mt of BSAI TLAS yellowfin sole. In both examples, a large percentage of the halibut PSC limit remained in the water. One year, 2010, stands out as an unusual year with only 27 mt of halibut mortality for 19,421 mt of BSAI TLAS yellowfin sole harvested. It is possible that the low halibut mortality in 2010 was the result of reduced halibut on the yellowfin sole fishing grounds in January and February and the fishery lasted only 8 weeks immediately following the January 20 opening date. Finally, halibut mortality in 2016 was 124 mt, leaving 26 mt of the halibut PSC limit in the water.

[5] Although the apportionment of halibut PSC to the BSAI TLAS yellowfin sole fishery was exceeded in 2013, total halibut PSC in the BSAI TLAS fisheries was below the limit established for all fisheries.

Table 2-15 Status of the BSAI yellowfin sole fishery from 2003 through 2017

	Pre-Amendment 80			BSAI / TLAS			Amendment 80		
Year	Action	Purpose	Date	Action	Purpose	Date	Action	Purpose	Date
2003	Closed – trawl	Halibut	16-Apr						
	Open – trawl	Sufficient halibut	29-Apr						
	Closed trawl bycatch limitation zone 1	Red king crab	21-May						
	Closed – trawl	Halibut	3-Jun						
	Closed – trawl	Halibut	24-Sep						
	Reapportionment from reserve	3,500 mt	24-Dec						
2004	Closed	TAC	2-Jun						
2005	Closed trawl by catch limitation zone 1	Red king crab	14-Mar						
	Closed	TAC	17-May						
	Opened	Sufficient TAC	21-Jul						
	Reapportionment from reserve	6,800 mt	25-Jul						
	Closed – trawl	Halibut	17-Aug						
	Prohibit retention	TAC	22-Aug						
	Rescinds prohibition retention	Sufficient TAC	16-Sep						
	Apportionment from reserve	3,500 mt	16-Sep						
	Apportionment from reserve	401 mt	30-Dec						
2006	Closed – trawl	Halibut	19-Apr						
	Closed – trawl	Halibut	7-Jun						
	Prohibit retention	TAC	15-Jun						
	Opened	Sufficient TAC	12-Jul						
	Apportionment from reserve	7,500 mt	24-Jul						
	Closed	TAC	7-Aug						
2007	Closed – trawl	Halibut	18-Apr						
	Closed – trawl	Halibut	7-Jun						
	Closed – trawl	Halibut	3-Aug						
2008				Reallocation TLAS to AM80	6,000 mt	20-Oct	Closed –AM80 LAF	Halibut	16-May
							Closed –AM80 LAF bycatch limitation zone 1	Red king crab	21-May
							Reallocation TLAS to AM80	6,000 mt	20-Oct
							Closed –AM80 LAF	Halibut	20-Nov
2009				Reallocation TLAS to AM80	6,000 mt	2-Oct	Reallocation TLAS to AM80	6,000 mt	2-Oct
2010				Reallocation TLAS to AM80	20,000 mt & 358 mt Halibut	8-Sep & 10-Sep	Reallocation TLAS to AM80	20,000 mt & 340 mt Halibut	8-Sep & 10-Sep
2011				Reallocation TLAS to AM80	2,000 mt	5-Oct	Reallocation TLAS to AM80	2,000 mt	5-Oct
2012				No TAC or halibut closures for yellowfin sole			No TAC or halibut closures for yellowfin sole		
2013	**N/A**			Reallocation TLAS to AM80	140 mt halibut	14-Nov	Reallocation TLAS to AM80	133 mt halibut	14-Nov
				Closed	TAC	9-Nov	No TAC or halibut closures for yellowfin sole		
2014				Closed	Halibut	15-May			
				Reapportionment Halibut PSC from BSAI TLAS Pcod	60 mt	18-Jun	No TAC or halibut closures for yellowfin sole		
				Open	Sufficient halibut PSC	20-Jun			
				Reallocation TLAS to AM80	80 mt halibut	22-Oct	Reallocation TLAS to AM80	76 mt halibut	22-Oct
2015				Closed	TAC		No TAC or halibut closures for yellowfin sole		
2016				Closed	TAC		No TAC or halibut closures for yellowfin sole		
2017				Closed	TAC		No TAC or halibut closures for yellowfin sole		

Source: NMFS Final Specifications
TLAS – trawl limited access sector
LAF – AM80 limited access fishery

Table 2-16 and Figure 2-2 provide the annual halibut rate for the BSAI TLAS yellowfin sole directed fishery (kilogram of halibut mortality in the BSAI TLAS yellowfin sole directed fishery divided by catch of all groundfish in the BSAI TLAS yellowfin sole directed fishery) from 2008 through May 30, 2017. The table and figure also provide annual halibut rates for the Amendment 80 yellowfin sole fishery, and the Pacific cod, rock sole, and flathead sole fisheries in the BSAI. As noted in the table and figure, with the exception of the 2017 fishery, the annual halibut rate has increased slightly every year since 2010. During 2010, the halibut rate for the BSAI TLAS yellowfin sole directed fishery was 1.11, while in 2016 the halibut rate was 6.29.

Halibut rates for other groundfish fisheries in the BSAI in most cases were similar in scope to the BSAI TLAS yellowfin sole directed fishery. Some groundfish fisheries with high halibut rates were rock sole between 2008 through 2010 and flathead sole between 2008 through 2013.

Table 2-16 Halibut PSC limit, halibut mortality, and halibut mortality rate for the BSAI TLAS yellowfin sole directed fishery and other BSAI groundfish fisheries from 2008 through May 30, 2017

Year	BSAI TLAS yellowfin sole					Other halibut PSC rates** in BSAI groundfish fisheries			
	Target catch (mt)	Halibut PSC limit (mt)	Total halibut mortality	Unused halibut PSC limit (mt)	Halibut rate **	AM80 yellowfin sole	Pacific cod	Rock sole	Flathead sole
2008	20,017	241	158	83	5.82	5.70	7.75	10.18	8.31
2009	10,181	162	95	67	6.55	7.05	10.60	11.56	9.30
2010	19,421	187	27	160	1.11	6.64	4.62	12.52	8.12
2011	25,485	167	81	86	2.33	4.90	2.83	6.76	9.02
2012	28,140	167	142	25	3.57	5.16	10.41	4.67	13.95
2013	34,606	167	185	-18	3.61	5.63	5.76	8.09	8.79
2014	27,720	227	194	33	4.81	6.64	5.98	9.01	5.61
2015	16,073	167	122	45	4.98	4.49	5.78	7.66	3.67
2016	14,708	150	124	26	6.29	3.59	3.75	6.25	4.51
2017	18,593	150	125	25	2.30	2.51	4.12	2.87	4.22

Source file: BSAI_Yellowfin (4-17-17) and BSAI_PSC (5-30-17); current as of May 30, 2017
*60 mt of halibut PSC was transferred to the BSAI TLAS YFS fishery from BSAI TLAS Pacific cod fishery
**Halibut rate = kg halibut mortality /mt groundfish
TLAS = trawl limited access sector
YFS = yellowfin sole

Figure 2-2 Annual halibut mortality rate in the BSAI TLAS yellowfin sole directed fishery relative to other BSAI groundfish fisheries from 2008 through May 30, 2017

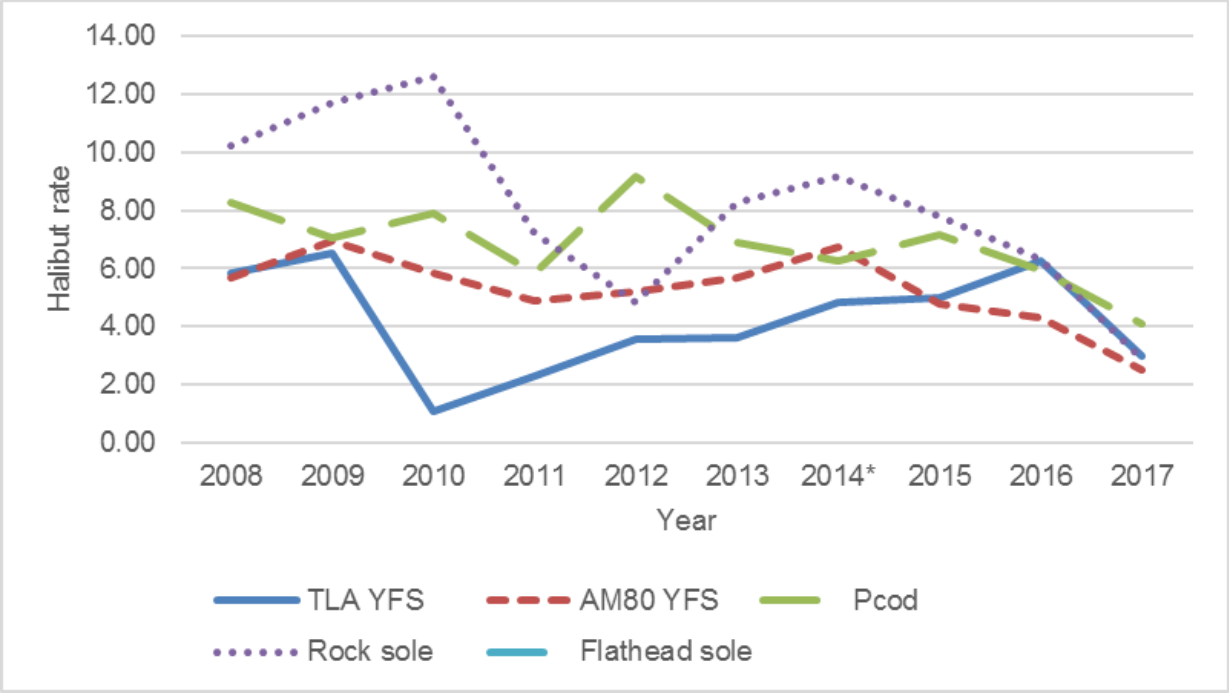


Table 2-17 provides information on the average monthly halibut mortality rate from 2008 through 2017. In general, the months with the highest halibut mortality are June, July, November, and December. During those months, halibut mortality rates in the BSAI TLAS yellowfin sole directed fishery range from a low of 7.85 kg of halibut per mt of groundfish to 12.46 kg of halibut per mt of groundfish. The months with the lowest mortality rates are January, May, September, and October, which range from 2.15 kg of halibut per mt of groundfish to 3.43 kg of halibut per mt of groundfish.

Table 2-17 Average monthly halibut mortality rate

Month	2008 - 2017
January	2.44
February	4.21
March	3.94
April	3.73
May	2.15
June	7.85
July	*
August	5.05
September	3.43
October	3.31
November	12.46
December	*
Average	**4.00**

Source: TLAS_PSC_RATES_MNTH(4-20-17);

*Denotes confidential data

Table 2-18 disaggregates halibut mortality in the BSAI TLAS yellowfin sole directed fishery by vessel operation. Except for 2015, 2016 and 2017, annual halibut mortality by sector is confidential and could not be provided due to the limited number of motherships participating in the fishery on an annual basis. For the three years halibut mortality could be shown, the CP sector caught 54 mt in 2015, 47 mt in 2016, and 30 mt for 2017, which was 44%, 38%, and 24% of the halibut PSC limit for the BSAI TLAS yellowfin sole directed fishery. This corresponds with the CP sector catching 55%, 51%, and 42% of the TLAS yellowfin sole ITAC in 2015, 2016, and 2017, respectively. The CV sector caught 68 mt in 2015, 77 mt in 2016, and 95 mt in 2017, which was 56%, 62%, and 76% of the total halibut mortality in the BSAI TLAS yellowfin sole directed fishery. This corresponds with the CV sector catching 45%, 48%, and 58% of the TLAS yellowfin sole ITAC in 2015, 2016, and 2017, respectively.

Halibut mortality rates between the two groups varied somewhat during the 2015 to 2017 period. The CP sector's halibut mortality rate was 4.25 in 2015, 4.70 in 2016, and 1.34 for 2017, while the CV sector's halibut mortality rate was 6.56 for 2015, 8.18 in 2016, and 2.98 in 2017. Overall, the CP sector's average halibut mortality rate from 2003 through 2017 was 3%, while the average halibut mortality rate for CV sector was 4.25%. Looking only at the years 2015 through 2017, average halibut mortality for the CP sector was 3.43, while the CV sector was 5.91. When comparing halibut mortality amongst new and historic CVs, rates vary across groups with one group having the highest mortality one year while the other group of CVs having the highest mortality the next year. In general, the CP sector has a slightly lower halibut mortality rate when compared to CV sector, which is likely a factor of the timing of the CP fishery. Most CPs focus their fishing effort immediately following the January 20 opener. There likely is less halibut on the yellowfin sole grounds at this time of year. The CVs tend to fish throughout the entire

BSAI TLAS yellowfin sole season, so the CVs are generally fishing later in the year when there are more halibut on the yellowfin sole grounds.

Table 2-18 Halibut mortality by vessel operator in the BSAI TLAS yellowfin sole directed fishery, 2003 through 2017

Year	YFS trawl (mt)	BSAI TLA YFS halibut PSC limit (mt)	CPs			CVs			Total halibut mortality (mt)
			Halibut mortality (mt)	% of total halibut mortality	Halibut mortality rate***	Halibut mortality (mt)	% of total halibut mortality	Halibut mortality rate***	
2003	886		*	*	*	*	*	*	2
2004	886		*	*	*	*	*	*	4
2005	886	NA	*	*	*	*	*	*	16
2006	886		*	*	*	*	*	*	92
2007	886		*	*	*	*	*	*	56
2008		241	*	*	*	*	*	*	158
2009		162	*	*	*	*	*	*	95
2010		187	*	*	*	*	*	*	27
2011		167	*	*	*	*	*	*	81
2012	NA	167	*	*	*	*	*	*	142
2013		167	*	*	*	*	*	*	185
2014**		227	*	*	*	*	*	*	194
2015		167	55	44	4.25	68	55	6.56	123
2016		150	48	38	4.70	77	61	8.18	127
2017		150	30	24	1.34	95	76	2.98	125

Source file: BSAI_Yellowfin(5-30-17) and NMFS Final Specifications

*Confidential data

**60 mt of halibut PSC was transferred to the BSAI TLA YFS fishery from BSAI TLA Pacific cod fishery

***Halibut rate = kg halibut mortality in the BSAI TLA YFS fishery/mt groundfish in the BSAI TLA YFS fishery

TLA = trawl limited access

YFS = yellowfin sole

As noted in the December 2015 public testimony on this issue, some companies participating in the BSAI TLAS yellowfin sole directed fishery have developed a best practices agreement to help reduce halibut mortality in the fishery. Since 2012, a few AFA companies and one Amendment 80 company have established an agreement to help reduce halibut mortality in the BSAI TLAS yellowfin sole directed fishery. Elements of the agreement have included target rates of halibut mortality, reporting real-time halibut mortality and location of the mortality, and established procedures for sharing halibut mortality information via Sea-State. In some years, the agreement has also included informal apportionment of remaining halibut mortality among participating vessels that fish late in the year.

Overall, under status quo, halibut PSC usage in the BSAI TLAS yellowfin sole directed fishery will likely continue at similar levels if participation is stable. If participation by motherships and/or CVs increases, overall halibut PSC usage may increase, particularly if the increase in the number of participants affects halibut rates in the fishery. In addition, an increase in the number of participants could reduce the likelihood that fishery participants could establish an agreement to reduce halibut mortality in the fishery. In those years where the 150 mt halibut PSC limit for the BSAI TLAS yellowfin sole directed fishery is reached prior to harvesting all the yellowfin sole TLAS allocation, some of that BSAI TLAS yellowfin sole allocation could remain unharvested by the TLAS vessels, which NMFS could roll over to the Amendment 80 sector later in the year.

2.7.2 Analysis of Impacts: Alternative 2 (Council Preferred Alternative)

2.7.2.1 Option 1.1 (Council Preferred Option) and Option 1.2

Under this alternative, CVs harvesting BSAI TLAS yellowfin sole and delivering to offshore processors would be restricted to those CVs assigned an LLP license that was credited with at least one trip target landing in the BSAI TLAS yellowfin sole fishery made to a mothership or catcher/processor within a specified time period. There are two options that vary only in the qualifying years used to limit access. Specifically, under Option 1.1, the qualifying landing(s) must have been made from 2008 through 2015 in any one year (Suboption 1.1.1) or in any two years (Suboption 1.1.2). Under Option 1.2, the qualifying years would be from 2008 through 2016 in any one year (Suboption 1.2.1) or in any two years (Suboption 1.2.2).

Table 2-19 shows the total number of trawl CVs that participated in different BSAI groundfish fisheries from 2008 through April 19, 2017. In total, there were 125 trawl CVs that participated in BSAI groundfish fisheries. Of those 125 CVs, 99 CVs targeted BSAI pollock, 90 CVs targeted Pacific cod, 13 CVs targeted BSAI yellowfin sole, and 14 CVs targeted other groundfish.

Table 2-19 Number of trawl CVs targeting BSAI groundfish from 2008 through 2017

	BSAI target fisheries from 2008 through April 19, 2017				
	Total	**Pollock**	**Pacific cod**	**Yellowfin sole**	**Other groundfish**
Number of trawl CVs	125	99	90	13	14

Source file: BSAI_TGTS(4-19); Current as of April 19, 2017

As noted above, the Council clarified that eligibility to participate in the offshore BSAI TLAS yellowfin sole directed fishery for CVs would be attached to an LLP license, provided it meets qualifying criteria, in the form of an endorsement to that LLP license. While the Council's deliberations on the alternatives were focused on the number of CVs participating in the fishery under the alternatives, the number of CVs that would be "eligible" to participate in the offshore BSAI TLAS yellowfin sole directed fishery, as understood and discussed by the Council under the preferred alternative, corresponds to the number of LLP licenses that meet the eligibility requirements for a BSAI TLAS yellowfin sole directed fishery endorsement. The Council's recommendation of the preferred alternative was predicated on the assumption that eight LLP licenses to which eight CVs are currently assigned would be eligible to participate in the BSAI TLAS yellowfin sole directed fishery under the preferred alternative, Suboption 1.1.1.

Under the LLP, licenses can be assigned to different vessels. Therefore, the references to specific numbers of CVs presented in this analysis and discussed by the Council in its deliberations represent the maximum number of CVs that could conduct directed fishing for BSAI TLAS YFS under the various options, as well as the current assignment of LLP licenses to CVs with a qualifying landing. Under the preferred alternative, fewer and/or different CVs may be assigned an LLP license with an endorsement and be authorized to directed fish for BSAI TLAS YFS. This analysis uses the current LLP license assignments to describe the likely impacts of the proposed action because it is not possible to know how the assignments may change in the future.

Looking first at Option 1.1, Table 2-20 shows the number of CVs targeting BSAI TLAS yellowfin sole from 2008 through 2015, and the number of CVs that made qualifying landings of BSAI yellow fin sole TLAS under Suboption 1.1.1 **(Council Preferred Suboption)** and Suboption 1.1.2. The eight vessels shown in the table are owned by five companies that targeted BSAI TLAS yellowfin sole from 2008 through 2015. Four are CPs that were acting as a CV by delivering catch to a mothership or another CP

for processing. Six are non-AFA vessels, while two are AFA vessels. Under Suboption 1.1.1, eight LLP licenses assigned to these eight CVs meet the eligibility criteria to be issued a BSAI TLAS yellowfin sole directed fishery endorsement. Although ten LLP licenses were assigned to the CVs with qualifying landings from 2008 through 2015, only eight LLP licenses are eligible to receive a BSAI TLAS yellowfin sole directed fishery endorsement. The Council specified that if a vessel that made at least one trip target landing in the BSAI TLAS yellowfin sole fishery during the qualifying period was designated on more than one LLP license, those LLP licenses that were assigned to the vessel when it made a trip target landing in a BSAI TLAS fishery during the qualifying period would be eligible to be credited with the qualifying landing. In such cases, the vessel owner would have to select the one LLP license that would receive a BSAI TLAS yellowfin sole directed fishery endorsement.

Suboption 1.1.2 narrows the eligibility requirement for an LLP license to receive a BSAI TLAS yellowfin sole directed fishery endorsement to one trip target landing delivered to a mothership or CP in the BSAI TLAS yellowfin sole fishery in any two years from 2008 through 2015. Under this suboption, three LLP licenses would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole. These LLP license are currently assigned to non-AFA vessels owned by one company. As seen in Table 2-20, three CVs with qualifying landings were assigned LLP licenses that would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole under Suboption 1.1.1, but not under Suboption 1.1.2, because these CVs had only one year (2015) of trip target BSAI TLAS yellowfin sole landings between 2008 through 2015. These three CVs participated in the 2016 BSAI TLAS yellowfin sole directed fishery (Table 2-21). The remaining two CVs were assigned LLP licenses that would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole under Suboption 1.1.1, but not under Suboption 1.1.2. One CV had a qualifying landing only in 2008, while the other vessel had qualifying landings in 2008 and in 2016.

Confidentiality restrictions preclude the Council from reviewing gross revenue data for individual participants. Nevertheless, some general statements can be made about the portion of total gross revenue attributed to the BSAI TLAS yellowfin sole fishery for the affected CVs without disclosing confidential information. The portion of total gross revenue from BSAI TLAS yellowfin sole for each of the CVs assigned LLP licenses that would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole under Suboption 1.1.1 and Suboption 1.1.2 differed significantly between the vessels. Specifically, the three CVs assigned LLP licenses that would be eligible to receive a BSAI TLAS yellowfin sole directed fishery endorsement under Suboption 1.1.2 had a much higher portion of their total gross revenue from the BSAI TLAS yellowfin sole directed fishery than the five CVs that did not have qualifying landings under Suboption 1.1.2. However, one of the five CVs assigned to an LLP license that would not be eligible to receive a BSAI TLAS yellowfin sole directed fishery endorsement under Suboption 1.1.2 had a significant portion of their total gross revenue come from the BSAI TLAS yellowfin sole directed fishery.

As noted in Table 2-11 and Table 2-12, all CVs assigned LLP licenses that would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole under Option 1.1 (vessel 1 through vessel 8) also participated in other fisheries in addition to the BSAI TLAS yellowfin sole directed fishery. Other fisheries included BSAI Pacific cod, BSAI pollock, BSAI TLAS Atka mackerel and AI TLAS Pacific Ocean perch, BSAI MRA rock sole, GOA pollock, GOA Pacific cod, and other GOA groundfish fisheries. The three CVs assigned LLP licenses that would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement under Suboption 1.1.1 and Suboption 1.1.2 had a significant portion of their total gross revenue from BSAI Pacific cod and other BSAI groundfish fisheries, which included TLAS Atka mackerel and TLAS Pacific Ocean perch. The total gross revenue varied for the five additional CVs assigned LLP licenses that would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement under Suboption 1.1.1. One CV had

revenue from BSAI TLAS Atka mackerel, BSAI Pacific cod, and BSAI MRA rock sole. Two CVs had significant portions of their total gross revenue from BS pollock and BS Pacific cod, while the remaining two CVs had total gross revenue mostly from the BSAI Pacific cod fishery.

Table 2-20 Number of CVs targeting BSAI TLAS yellowfin sole from 2008 through 2015 that made qualifying landings under Suboption 1.1.1 (Council Preferred Suboption) and Suboption 1.1.2

CVs targeting BSAI YFS TLAS	2008	2009	2010	2011	2012	2013	2014	2015	Catcher vessels with qualifying landings	
									Suboption 1.1.1 (any one year 2008-2015) **Council preferred suboption**	Suboption 1.1.2 (any two years 2008-2015)
Vessel 1	X								X	
Vessel 2	X								X	
Vessel 3	X	X		X	X	X	X	X	X	X
Vessel 4					X	X	X	X	X	X
Vessel 5				X	X	X	X	X	X	X
Vessel 6								X	X	
Vessel 7								X	X	
Vessel 8								X	X	
Total	3	1	0	2	3	3	3	6	8	3

Source file: BSAI_Yelbw fin(7-15)-1
TLAS=trawl limited access sector
YFS=yellowfin sole

Table 2-21 shows CVs that made qualifying landings 2008 through 2016 under Option 1.2. A total of 10 CVs owned by seven companies targeted BSAI TLAS yellowfin sole and delivered their harvest to an offshore processor at least one year from 2008 through 2016. The LLP licenses assigned to those vessels would qualify for a BSAI TLAS yellowfin sole directed fishery endorsement under Suboption 1.2.1. The addition of 2016 for determination of eligibility resulted in two additional CVs making qualifying landings compared to Suboption 1.1.1. Both of those vessels are AFA vessels. Overall, six of the CVs that made qualifying landings under Suboption 1.2.1 are non-AFA vessels and four are AFA vessels. As noted in Table 2-11 and Table 2-12, from 2008 through 2016, all ten CVs that made qualifying landings also targeted BSAI Pacific cod, BSAI pollock, BSAI Atka mackerel TLAS, AI Pacific ocean perch TLAS, BSAI MRA rock sole, and occasionally other BSAI MRA groundfish species. In the GOA, one CV targeted a mix of species to include Pacific cod, pollock, rock sole, sablefish, arrowtooth flounder and sablefish throughout 2008 through 2016; two CVs were active in the GOA only in 2008; and the remaining two CVs targeted mostly pollock.

Under Suboption 1.2.2, which requires a CV to target and make at least one trip target delivery of BSAI TLAS yellowfin sole to an offshore processor in any two years from 2008 through 2016 to result in the LLP license assigned to that vessel to be eligible for a BSAI TLAS yellowfin sole directed fishery endorsement, seven CVs owned by four companies made qualifying landings. Compared to Suboption 1.1.2, under which only three CVs from one company made qualifying landings, the addition of 2016 to the eligibility criteria resulted in four additional CVs that made landings rendering the LLP licenses assigned to those vessels eligible for BSAI TLAS yellowfin sole directed fishery endorsements. Two of the LLP licenses eligible for a BSAI TLAS yellowfin sole directed fishery endorsement were assigned to AFA vessels, and the remaining five were assigned to non-AFA vessels. Of the three CVs that made qualifying landings under Suboption 1.2.1, but not under 1.2.2, one CV targeted BSAI TLAS yellowfin sole in 2008 only, while the remaining two CVs targeted BSAI TLAS yellowfin sole in 2016 only.

Table 2-21 Number of CVs targeting BSAI TLAS yellowfin sole from 2008 through 2016 that made qualifying landings under Suboption 1.2.1 and Suboption 1.2.2

CVs targeting BSAI YFS TLAS	2008	2009	2010	2011	2012	2013	2014	2015	2016	Catcher vessels with qualifying landings	
										Suboption 1.2.1 (any one year 2008-2016) Council preferred option	Suboption 1.2.2 (any two years 2008-2016)
Vessel 1	X								X	X	X
Vessel 2	X									X	
Vessel 3	X	X		X	X	X	X	X	X	X	X
Vessel 4					X	X	X	X	X	X	X
Vessel 5				X	X	X	X	X	X	X	X
Vessel 6								X	X	X	X
Vessel 7								X	X	X	X
Vessel 8								X	X	X	X
Vessel 9									X	X	
Vessel 10									X	X	
Total	3	1	0	2	3	3	3	6	9	10	7

Source file: BSAI_Yelbw fin(7-15)-1
TLAS=trawl limited access sector
YFS=yellowfin sole

Comparing Table 2-10 to Table 2-21 shows that of the 15 total CVs that targeted BSAI yellowfin sole from 2003 through 2016, five of these CVs did not meet eligibility criteria to qualify assigned LLP licenses for BSAI TLAS yellowfin sole directed fishery endorsements under either suboption. None of these five CVs have targeted BSAI yellowfin sole since 2007. Three of these five CVs are AFA vessels with a significant portion of their total gross revenue from the BS pollock fishery with some additional revenue from BSAI Pacific cod and GOA groundfish fisheries. The portion of total gross revenue for these five CVs, aggregated, from the BSAI yellowfin sole fishery is less than one percent. Two CVs had greater than one percent but less than 10% of their total gross revenue from the BSAI yellowfin sole fishery. Since these five CVs had either less than one percent of their total gross revenue from BSAI yellowfin sole fishery or had not participated in the BSAI TLAS yellowfin sole directed fishery since its inception in 2008, other than lost opportunity to fish in the fishery in the future, there is likely minimal financial impact to these CVs from the proposed action.

One of the potential benefits of Option 1.1 and Option 1.2 is the potential for CVs that made qualifying landings making the assigned LLP licenses eligible for a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs to develop a voluntary cooperative agreement in the BSAI TLAS yellowfin sole directed fishery, which could help lengthen the BSAI TLAS yellowfin sole directed fishery and reduce halibut PSC in the fishery. Both Option 1.1 and Option 1.2 limit the total number of CVs that can target BSAI yellowfin TLAS sole for delivery to offshore processors and prohibit entry by new CVs, which makes cooperative management easier to achieve.

The benefits of establishing a voluntary cooperative to manage BSAI TLAS yellowfin sole directed fishery could be crucial to a fully utilized fishery. As noted in Table 2-16, the halibut PSC limit for all BSAI TLAS fisheries is 745 mt, of which 150 mt is apportioned to the yellowfin sole fishery. This recent reduction in halibut PSC limits for the BSAI TLAS fisheries, including yellowfin sole, combined with the Council's continued emphasis on reducing halibut PSC in the groundfish fisheries, continues to put increased pressure on harvesters to better manage their halibut mortality to fully harvest the BSAI TLAS yellowfin sole directed fishery. To that end, voluntary cooperative management could go a long way as a

tool for harvesters to fully utilize the BSAI TLAS yellowfin sole directed fishery during periods of high ITACs with a relatively lower halibut PSC limit, like those experienced from 2008 through 2014.

Another potential effect of a voluntary cooperative agreement between CVs assigned LLP licenses with a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole and participating CPs is that CVs could use the increased flexibility of the agreement to shift effort to other target fisheries without concern about losing out on BSAI TLAS yellowfin sole harvest. This spillover effect may be more likely when there are fewer CVs that have an LLP license with a BSAI TLAS yellowfin sole directed fishery endorsement to participate in the BSAI TLAS yellowfin sole directed fishery. Other target fisheries that might be affected are BSAI Pacific cod, BSAI Atka mackerel TLAS, AI Pacific ocean perch TLAS, and GOA pollock. In addition, MRA fisheries like BS pollock, BSAI rock sole, and BSAI flathead sole could also be impacted by these spillover effects.

Although the preferred alternative does not directly prohibit mothership activity in the BSAI TLAS yellowfin sole directed fishery, the proposed action does indirectly limit mothership opportunities in the fishery by reducing the number of CVs with LLP licenses assigned a BSAI TLAS yellowfin sole directed fishery endorsement that could target and deliver BSAI TLAS yellowfin sole to motherships. As noted in Table 2-13, nine motherships have participated in the BSAI yellowfin sole fishery from 2003 through 2016. Of those nine motherships, six received CV deliveries of targeted BSAI TLAS yellowfin sole catch during the 2008 through 2015 period, one mothership last participated in 2004, and the remaining two motherships were active in the fishery for the first time in 2016. Under Suboption 1.1.1, eight LLP licenses would be eligible for an endorsement authorizing delivery of targeted BSAI TLAS yellowfin sole to a mothership, while under Suboption 1.1.2, only three CVs could be assigned LLP licenses with a BSAI TLAS yellowfin sole directed fishery endorsement that authorizes deliveries to a mothership. Under Suboption 1.2.1, ten CVs with LLP licenses eligible for a BSAI TLAS yellowfin sole directed fishery endorsement could deliver targeted BSAI TLAS yellowfin sole to a mothership, and under Suboption 1.2.2, seven LLP licenses would be eligible for a BSAI TLAS yellowfin sole directed fishery endorsement allowing deliveries to a mothership. In general, the lower the number of LLP licenses eligible for such an endorsement, the more the proposed action indirectly limits mothership opportunities in the BSAI TLAS yellowfin sole directed fishery.

The level of vertical integration present in the BSAI TLAS yellowfin sole directed fishery would also reduce mothership opportunities. Specifically, two companies that own five of the eight CVs that made qualified landings under Suboption 1.1.1 and one company that owns all three of the CVs that made qualified landings under Suboption 1.1.2, also own motherships that have participated in the BSAI TLAS yellowfin sole directed fishery. Companies that own both CVs that made qualified landings and participating motherships are likely at an economic advantage relatively to companies that do not own CVs that made qualified landings, since these non-vertically integrated motherships must secure deliveries from a limited number of CVs that are assigned an LLP license with a BSAI TLAS yellowfin sole directed fishery endorsement. In general, the lower the number of CVs that made qualified landings in the BSAI TLAS yellowfin sole directed fishery and thus the smaller number of LLP licenses eligible for a BSAI TLAS yellowfin sole directed fishery endorsement, the smaller the processing opportunity for non-vertically integrated motherships in the fishery.

Selection of Suboption 1.1.2 could also reduce production efficiencies among BSAI yellowfin sole TLAS motherships that also operate as CPs in the Amendment 80 yellowfin sole fishery because it would provide for substantially fewer CVs in the fishery relative to Suboption 1.1.1. As noted in Section 2.7.1.1, processing both BSAI TLAS yellowfin sole and Amendment 80 yellowfin sole at the same time likely lowers the marginal cost of production for each unit of yellowfin sole. Without the addition of BSAI TLAS yellowfin sole deliveries, it is possible that some motherships may not be able to secure deliveries

from the limited number of CVs authorized to target BSAI TLAS yellowfin sole and could experience a higher marginal cost of production that is enough to affect their Amendment 80 yellowfin sole operation.

Some potential for spillover effects in the BSAI Pacific cod CV fishery exists from those CVs without an LLP assigned a BSAI TLAS yellowfin sole directed fishery endorsement, even though most of the CVs that participate in the BSAI TLAS yellowfin sole directed fishery also participate in the BSAI Pacific cod fishery. The primary spillover effect would likely be from increased fishing effort in the BS Pacific cod CV fishery by CVs that are not assigned LLP licenses eligible for a BSAI TLAS yellowfin sole directed fishery endorsement. This additional effort could make this already fully utilized fishery that much more competitive. In general, the greater the number of CVs that are not assigned LLP licenses eligible for a BSAI TLAS yellowfin sole directed fishery endorsement and by extension, the fewer number of motherships, likely the greater the spillover effect in the BSAI Pacific cod CV offshore fishery.

Development of a threshold fishery (Option 2.1) or providing CVs that are not assigned LLP licenses with a BSAI TLAS yellowfin sole directed fishery endorsement access to a limited BSAI TLAS yellowfin sole amount (Option 2.2) would likely do little to reduce these spillover effects. In general, the BSAI A season Pacific cod CV fishery has closes to fishing in February and March (Table 2-22), while the BSAI TLAS yellowfin sole directed fishery closes much later (see Table 2-15). This difference in closure dates for these two fisheries provides ample time for CVs that are not assigned LLP licenses with a BSAI TLAS yellowfin sole directed fishery endorsement to focus their fishing effort in the BSAI Pacific cod fishery before shifting their effort to any threshold or limited BSAI TLAS yellowfin sole directed fishery, if available.

Table 2-22 Closure dates for BSAI Pacific cod A season trawl CV sector

Year	Sector closure date for Pacific cod A season trawl CV
2003	Never closed
2004	23-Mar
2005	13-Mar
2006	8-Mar
2007	12-Mar
2008	6-Mar
2009	21-Mar
2010	12-Mar
2011	26-Mar
2012	27-Feb
2013	11-Mar
2014	Never closed
2015	Never closed
2016	9-Mar
2017	23-Feb

Source: NMFS

2.7.2.2 Option 2.1

Under this option, the limits on CVs delivering BSAI TLAS yellowfin sole catch to offshore processors would be lifted for the year if the TLAS allocation was equal to or greater than:

- Suboption 2.1.1 - 15,000 mt
- Suboption 2.1.2 - 20,000 mt
- Suboption 2.1.3 - 25,000 mt
- Suboption 2.1.4 - 30,000 mt

In those years where the CV restriction is lifted, any CV with the appropriate LLP license area and gear endorsements would be authorized to target BSAI TLAS yellowfin sole and deliver the vessel's harvest to an offshore processing vessel. As noted in Table 2-23, since implementation of the BSAI TLAS yellowfin sole directed fishery in 2008, the TLAS allocation has exceeded 15,000 mt trigger (Suboption 2.1.1) in all years except 2016 when the allocation was 14,979. During that year, nine CVs harvested 7,011 mt or 58% of the TLAS allocation. The fishery closed on June 8th with only 271 mt of the original allocation remaining. Raising the amount of BSAI TLAS yellowfin sole allocation to 20,000 mt under Suboption 2.1.2 or 25,000 mt under Suboption 2.1.3 to remove the CV restriction for the year, the trigger to lift the CV limitation would not have applied in 2015 through 2017 (Table 2-23). During 2015, the BSAI TLAS yellowfin sole allocation was 16,165 mt and six CVs harvested and delivered 7,202 mt of that allocation to offshore processors prior to the November 10 fishery closure. In 2017, eight CVs harvested and delivered 10,860 mt of BSAI TLAS yellowfin sole. At a 30,000 mt trigger, the CV restriction would have been lifted in five of the last ten years.

Table 2-23 BSAI TLAS yellowfin sole allocation, catch, remaining allocation, CV count, season closure date, and years the TLAS allocation was greater than 15,000 mt, 20,000 mt, 25,000 mt, or 30,000 mt TLAS allocation

Year	BSAI TLA YFS allocation (mt)	BSAI TLA YFS target catch from 2008 - 2017 (mt)	Remaining BSAI TLA YFS allocation (mt)	Total CV count (deliverying to motherships)	Season closure date	TLA allocation greater than 15,000 mt (Suboption 2.1.1)	TLA allocation greater than 20,000 mt (Suboption 2.1.2)	TLA allocation greater than 25,000 mt (Suboption 2.1.3)	TLA allocation greater than 30,000 mt (Suboption 2.1.4)
2008^	32,512	20,017	12,495	3	31-Dec	Yes	Yes	Yes	Yes
2009^	33,154	10,181	22,973	1	2-Oct	Yes	Yes	Yes	Yes
2010^	22,369	19,421	2,948	0	8-Sep	Yes	Yes	Yes	No
2011	32,153	25,485	6,668	2	5-Oct	Yes	Yes	Yes	Yes
2012	36,297	28,140	8,157	3	31-Dec	Yes	Yes	Yes	Yes
2013	34,868	34,606	262	3	9-Nov	Yes	Yes	Yes	Yes
2014[3]	29,707	27,720	1,987	3	31-Dec	Yes	Yes	Yes	No
2015	16,165	16,073	92	6	10-Nov	Yes	No	No	No
2016	14,979	14,708	271	9	8-Jun	No	No	No	No
2017	18,151	18,593	-442	8	26-May	Yes	No	No	No

Source: NMFS Final Specifications

Source file: BSAI_Yellowfin(4-17-17)

[1]ITAC = TAC - CDQ

[2]Catch of YFS BSAI target catch by AM80 vessels has been removed from YFS BSAI target catch (2003-2007)

[3]Fishery closed on 15-May for halibut PSC, but the fishery was opened 20-June after reapportionment from Pcod TLA fisher

^BSAI TLA YFS allocation was adjusted to account for reapportionment of YFS from the BSAI TLA to Amendment 80 (see Table 4 for amounts reapportioned)

TLA = trawl limited access

YFS = yellowfin sole

Although this option could provide harvesting opportunities in the BSAI TLAS yellowfin sole limited access directed fishery for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement when sufficient allocation exists, this option does have some limitations that reduce the benefit of the option. One of the limitations is the potential for this option, given its specific metric ton amount for lifting the eligibility requirements for the year, to encourage adversarial harvest specification

negotiations for BSAI yellowfin sole TAC. Under this option, there is the potential for participants with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole to advocate for a BSAI yellowfin sole TAC that results in an BSAI TLAS yellowfin sole allocation slightly less than the trigger amount. In contrast, CV owners without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement to participate in the limited access fishery could advocate for a BSAI yellowfin sole TAC that results in a BSAI TLAS yellowfin sole allocation higher than the trigger amount. In all likelihood, if there is little to no perceived risk of numerous CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement entering the BSAI TLAS yellowfin sole directed fishery, the negotiations for setting the BSAI yellowfin sole TAC with regard to the trigger amount would be a minor factor. This outcome is likely dependent on the number of CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement selected under Option 1. For example, under Suboption 1.2.2 ten CVs made qualifying landings and ten LLP licenses would be eligible to be assigned a BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole in the directed fishery, which leaves no CVs that have historically participated in the fishery without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement that would likely advocate for an amount of yellowfin sole TAC sufficient to initiate the trigger. However, if there is a perceived risk of numerous CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement entering the BSAI TLAS yellowfin sole directed fishery, CVs using an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs could use their collective leverage to advocate for a lower BSAI yellowfin sole TAC to prevent CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement from entering the BSAI TLAS yellowfin sole directed fishery.

Another potential limitation of this option is it could reduce the incentive for CVs to reduce halibut mortality. Since this option would lift the eligibility requirement for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement when BSAI TLAS yellowfin sole allocation is equal to or greater than the selected threshold, there is a potential that CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement entering the fishery could create a race for BSAI TLAS yellowfin sole with CVs using an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and CPs. During those years when the limitation is lifted, CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement may harvest less yellowfin sole than they would if the limitation was in effect due to participation in the fishery by CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. Depending on the number of additional CVs likely to enter the fishery, the CVs using an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement that formed a voluntary cooperative agreement with CPs in previous years will have little incentive to establish those agreements if CVs without an LLP license with a BSAI TLAS yellowfin sole directed fishery endorsement do not have to meet the same yellowfin sole allocation and halibut PSC usage agreements. In general, during years when the BSAI TLAS yellowfin sole limit is lifted, the effects of Option 2.1 on the BSAI TLAS yellowfin sole directed fishery are comparable to the status quo alternative.

2.7.2.3 Option 2.2

Option 2.2 would establish a BSAI TLAS yellowfin sole sideboard limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. Under this option, CVs that do not meet the landing qualification established under Option 1 may target BSAI TLAS yellowfin sole only on that portion of the yellowfin sole TAC assigned to the BSAI trawl limited access fishery that is equal to or greater than:

- Suboption 2.2.1 - 15,000 mt
- Suboption 2.2.2 - 20,000 mt

- Suboption 2.2.3 - 25,000 mt
- Suboption 2.2.4 - 30,000 mt

This limit is not a guaranteed amount of BSAI TLAS yellowfin sole because CPs and CVs assigned an LLP license with a BSAI TLAS yellowfin sole directed fishery endorsement could harvest all the BSAI TLAS yellowfin sole allocation, including the amount of yellowfin sole that CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement are limited to harvesting. The limit would operate in a manner similar to groundfish sideboards established for AFA and Amendment 80 vessels in other fisheries.

In addition, the option would limit the amount of halibut PSC that may be used by CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement targeting BSAI TLAS yellowfin sole defined under Option 2.2. The halibut PSC limit is based on the proportional share of BSAI TLAS yellowfin sole available to those vessels without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. This option does not allocate BSAI TLAS yellowfin sole and halibut PSC between the two CV groups but rather limits the amount of BSAI TLAS yellowfin sole harvest and halibut PSC mortality for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. The limit would operate in a manner similar to PSC sideboards established for AFA and Amendment 80 vessels in other fisheries.

For example, assume the BSAI TLAS yellowfin sole allocation is 35,000 mt and the halibut PSC apportioned to the BSAI TLAS yellowfin sole directed fishery is 150 mt. Under Suboption 2.2.3, 25,000 mt of BSAI TLAS yellowfin sole would not be available for harvest by CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, while the portion of BSAI TLAS yellowfin sole allocation over that 25,000 mt, in this example 10,000 mt, would be available for all CVs including CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. The halibut PSC limit for the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement that participate in the 10,000 mt of BSAI TLAS yellowfin sole portion would be 43 mt or 29% (10,000 mt / 35,000 mt) of the 150 mt of halibut PSC apportioned to the entire BSAI TLAS yellowfin sole directed fishery.

Given that this option would establish a BSAI TLAS yellowfin sole limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement if the ITAC is equal to or above the specified threshold, NMFS would have to determine if sufficient yellowfin sole TAC and halibut PSC is available to open the fishery for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. The opening of this fishery will depend on the amount of BSAI TLAS yellowfin sole ITAC and the associated PSC limit available for the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, as well as, the number of CVs and the catch rates of the participating CVs. If the amount available to CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement is insufficient given potential fishing effort, NMFS may not open the fishery for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and participation in the fishery would be limited to CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement .

In addition, since final harvest specifications are not in place until late February or March of each year, the BSAI TLAS yellowfin sole directed fishery may need to remain closed to directed fishing by CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement until the new harvest specifications are published in the Federal Register and are effective. This should allow for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement sufficient time to plan for a fishery, but it is possible the CVs with an LLP license assigned a BSAI TLAS yellowfin

sole directed fishery endorsement and AFA CPs could harvest the entire BSAI TLAS yellowfin sole allocation or utilize the halibut PSC before the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement can participate in the fishery. If enough yellowfin sole ITAC and halibut PSC limit remains after the final harvest specifications are published and effective, then NMFS will open directed fishing for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement after taking into consideration the number of participating CVs and their associated catch rates.

To provide a better understanding of the BSAI TLAS yellowfin sole catch limits and its associated halibut PSC limit that would have occurred for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement for each of the suboptions in Option 2.2, Table 2-24 delineates the BSAI TLAS yellowfin sole limit and halibut PSC limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement from 2008 – 2017 under each of the options. The halibut PSC limit estimates are based on an annual halibut PSC apportionment of a 150 mt to the BSAI TLAS yellowfin sole directed fishery. Looking at Suboption 2.2.1 (15,000 mt), the BSAI TLAS yellowfin sole limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement would have ranged from a low of zero in 2016 to high of 21,297 mt in 2012, while the halibut PSC limit for the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement would have ranged from a low of zero in 2016 to a high of 88 mt in 2012. At the other extreme, Suboption 2.2.4 (30,000 mt), the BSAI TLAS yellowfin sole limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement would have ranged from a low of zero in 2010, 2014, 2015, 2016, and 2017 to a high of 6,297 mt in 2012. Halibut PSC limit apportioned to the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement would have ranged from a low of zero in 2010, 2014, 2015, 2016, and 2017 to a high of 26 mt in 2012. Overall, the 15,000 mt suboption provides the greatest harvest opportunity for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, while providing the least amount of protection to historic participants from CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. In contrast, the 30,000 mt suboption provides the least amount of harvest opportunity for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, while providing the greatest amount of protection to historic participants from CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement.

Table 2-24 BSAI TLAS yellowfin sole allocation, target catch, and remaining allocation from 2008 – 2017 and BSAI TLAS yellowfin sole catch limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and its associated halibut PSC limit for Suboptions 2.2.1 – 2.2.4

Year	BSAI TLA YFS allocation (mt)	BSAI TLA YFS target catch (mt)	Remaining BSAI TLA YFS allocation (mt)	Suboption 2.2.1 - 15,000 mt		Suboption 2.2.2 - 20,000 mt		Suboption 2.2.3 - 25,000 mt		Suboption 2.2.4 - 30,000 mt	
				BSAI TLA yellowfin sole ineligible CV limit	Halibut PSC for ineligible CVs*	BSAI TLA yellowfin sole ineligible CV limit	Halibut PSC for ineligible CVs*	BSAI TLA yellowfin sole ineligible CV limit	Halibut PSC for ineligible CVs*	BSAI TLA yellowfin sole ineligible CV limit	Halibut PSC for ineligible CVs*
2008^	32,512	20,017	12,495	17,512	81	12,512	58	7,512	35	2,512	12
2009^	33,154	10,181	22,973	18,154	82	13,154	60	8,154	37	3,154	14
2010^	22,369	19,421	2,948	7,369	49	2,369	16	0	0	0	0
2011	32,153	25,485	6,668	17,153	80	12,153	57	7,153	33	2,153	10
2012	36,297	28,140	8,157	21,297	88	16,297	67	11,297	47	6,297	26
2013	34,868	34,606	262	19,868	85	14,868	64	9,868	42	4,868	21
2014[3]	29,707	27,720	1,987	14,707	74	9,707	49	4,707	24	0	0
2015	16,165	16,073	92	1,165	11	0	0	0	0	0	0
2016	14,979	14,708	271	0	0	0	0	0	0	0	0
2017	18,151	18,593	-442	3,151	26	0	0	0	0	0	0

Source: NMFS Final Specifications

Source file: BSAI_Yellowfin(4-17-17)

*Assumes 150 mt of total halibut PSC apportionment for the BSAI TLA yellowfin sole fishery

[1]ITAC = TAC - CDQ

[2]Catch of YFS BSAI target catch by AM80 vessels has been removed from YFS BSAI target catch (2003-2007)

[3]Fishery closed on 15-May for halibut PSC, but the fishery was opened 20-June after reapportionment from Pcod TLA fisher

^BSAI TLA YFS allocation was adjusted to account for reapportionment of YFS from the BSAI TLA to Amendment 80 (see Table 4 for amounts reapportioned)

TLA = trawl limited access

YFS = yellowfin sole

A factor in determining an appropriate BSAI TLAS yellowfin sole limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement is the linkage between the number of qualified LLP licenses assigned a BSAI TLAS yellowfin sole directed fishery endorsement as determined under Option 1 and the BSAI TLAS yellowfin sole limit for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement determined under Option 2.2. In considering this linkage between these two options, the decision maker should balance sufficient protection for CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs, consistent with the purpose and need for the proposed action, while also providing harvest opportunities for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement when there is sufficient BSAI yellowfin sole TAC. For example, Suboption 1.1.2 would authorize three CVs to participate in the BSAI TLAS yellowfin sole directed fishery. If Suboption 2.2.4 (30,000 mt) were selected, that represents a recommendation that 30,000 mt of BSAI TLAS yellowfin sole is necessary, so as not to unduly constrain the CVs using the three LLP licenses assigned a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs. At the same time selection of Suboption 2.2.4 represents a recommendation that any amount of BSAI TLAS yellowfin sole allocation equal to or greater than 30,000 mt provides enough harvest opportunity for all CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, which in this example could be up to twelve CVs that have historically participated in this fishery plus any new CV entrants. Relative to other suboptions in Option 2.2, the 30,000 mt floor for the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement may be more than what is necessary to provide protection for the three CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs based on utilization of previous allocations (see Table 2-4), while at the same time, potentially not providing sufficient harvest opportunity for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement during periods of high BSAI yellowfin TAC. In contrast, if Suboption 1.2.1, which authorizes CVs using LLP licenses assigned a BSAI TLAS yellowfin sole directed fishery endorsement, were coupled with Suboption 2.2.4, the limit could be an appropriate amount to not unduly constrain CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs, while providing a limited harvest opportunity for the few CVs that have historically participated, but did not meet the eligibility criteria to qualify the LLP license assigned

to that vessel for a BSAI TLAS yellowfin sole directed fishery endorsement and for any new CV entrants that had not previously participated in the fishery.

There is also the potential that the creation of a fishery for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement could shorten the BSAI TLAS yellowfin sole directed fishery season and hamper efforts to reduce halibut mortality. The impact of such a fishery on reducing season length depends in large part on the potential effort from CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement in that fishery. If the potential effort by CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement is projected to be significant, there could be an incentive for the CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs to concentrate their fishing effort to harvest as much of the BSAI TLAS yellowfin sole allocation prior to the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement harvesting their limit, which in turn could hamper efforts to reduce halibut mortality. In contrast, if potential effort by CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement is projected to be minor, CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and AFA CPs would continue to utilize the voluntary cooperative management to lengthen the fishery and reduce halibut mortality without concern of CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement harvesting a large portion of the BSAI TLAS yellowfin sole allocation.

Another factor in determining an appropriate floor for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and protecting historic participants is the potential impacts to harvest specification negotiations for BSAI yellowfin sole TAC. Option 2.2, if not well balanced with Option 1, could result in some difficultly during harvest specifications between historic participants and owners of CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. Like Option 2.1, the outcome of this option is likely dependent on the number of CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement selected under Option 1. For example, under Suboption 1.2.1, up to ten CVs, each with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, could participate in the BSAI TLAS yellowfin sole directed fishery, leaving no CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement with historical participation in the fishery since 2008 to advocate for an amount of yellowfin sole TAC sufficient to generate a fishery for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. In contrast, under Suboption 1.1.2, three CVs, each with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, could participate in the BSAI TLAS yellowfin sole directed fishery, leaving seven CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement with historical participation in the fishery since 2008 to advocate for an amount of yellowfin sole TAC sufficient to generate a fishery for vessels without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. This could be a factor in negotiations during specifications process.

One of the benefits of Option 2.2, relative to Option 2.1, is the potential for lower halibut mortality while at the same time providing opportunities for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement to participate in the BSAI TLAS yellowfin sole directed fishery during high TACs. Unlike Option 2.1, this option limits the amount of BSAI TLAS yellowfin sole and halibut PSC assigned to the BSAI TLAS yellowfin sole directed fishery that CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement may utilize. The limitation on CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement provides a more conducive environment for CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement to form voluntary cooperative agreements with CPs. This would allow both CPs and CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement to

fish for BSAI TLAS yellowfin sole at a slower pace, which could be useful in reducing halibut morality in the fishery.

2.7.3 Affected Small Entities

Section 603 of the Regulatory Flexibility Act (RFA) requires that an initial regulatory flexibility analysis (IRFA) be prepared to describe the economic impacts of proposed actions on small entities. NMFS Alaska Region prepares the IRFA in the Classification section of the proposed rule for an action. Therefore, the preparation of a separate IRFA is not necessary for the Council action on this issue.

The proposed action would limit access for trawl CVs targeting BSAI TLAS yellowfin sole for delivery of the catch to a mothership or catcher processor. For RFA purposes only, NMFS has established a small business size standard for businesses, including their affiliates, whose primary industry is commercial fishing (see 50 CFR 200.2). A business primarily engaged in commercial fishing (NAICS code 11411) is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $11 million for all its affiliated operations worldwide. One hundred sixty-three (163) groundfish LLP licenses assigned to eight CVs that fished in BSAI TLAS yellowfin sole directed fishery during 2008 through 2015 would be directly regulated by the proposed action. Of those groundfish LLP licenses 154 are considered large entities and nine are considered small entities. Also directly regulated by the proposed action and considered large entities are five vessel owners that will be required to choose one LLP, from those assigned to the vessel during the qualifying period, to receive credit for qualifying landings.

2.7.4 Management and Enforcement Considerations

None of the alternatives would increase NMFS' administrative burden or complicate the annual harvest specifications publication and implementation process compared to the status quo. Catcher vessels targeting yellowfin sole in the Bering Sea currently deliver unsorted codends to motherships or CPs acting like motherships with full observer coverage, and this would not change under any of the alternatives.

Option 2.2 would establish a BSAI TLAS yellowfin sole limit for CVs without an LLP license with an assigned BSAI TLAS yellowfin sole directed fishery endorsement to target BSAI TLAS yellowfin sole. NMFS would have to determine if sufficient yellowfin sole TAC and halibut PSC is available to open the fishery for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. The opening of this fishery will depend on the amount of BSAI TLAS yellowfin sole and the associated PSC limit available for the CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement, as well as, the number of CVs and the catch rates of the participating CVs. If the amount available to CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement is insufficient given potential fishing effort, the fishery may not open for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement. In addition, since final harvest specifications are not in place until late February or March each year, the BSAI TLAS yellowfin sole directed fishery for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement may need to remain closed to directed fishing until the new harvest specifications are published in the Federal Register and effective. If enough yellowfin sole TAC and halibut PSC limit remains after the final harvest specifications are published and effective, then NMFS may open directed fishing for CVs without an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement after taking into consideration the number of participating CVs and their associated catch rates.

NMFS would use observer data from motherships to track CV catch of yellowfin sole using existing reporting methods and catch accounting system. NMFS would continue to sum all directed yellowfin sole, non-target species, and PSC by CVs and close the directed fishery, as necessary, when a limit has been reached. Limiting trawl CV access to yellowfin sole harvest in the Bering Sea is manageable from NMFS's perspective, as it does not alter the harvest allocation in the Bering Sea. Thus, no increase in monitoring burden on management is expected. Likewise, there are no anticipated changes to enforcement efforts in this fishery.

2.7.5 Summary of Impacts of Alternatives

Table 2-25 provides a table summarizing the effects of the alternatives on CVs, CPs, and motherships.

Table 2-25 Summary of effects of alternatives on CVs, CPs, and motherships

	Catcher vessels	Motherships	AFA Catcher processors
Alternative 1 (Status quo)	• Likely continue at same activity level, but there is some potential for a few new CVs entrants in the future if more motherships enter the fishery	• Likely continue at same ac level, but there is some potential for a few new mothership entrants in the future	• Likely continue at same level of participation, but effort will depend on BS pollock ITAC levels
Alternative 2 **(Preferred Alternative)**			
Option 1 **(Preferred Option)**			
Suboption 1.1.1 **(Preferred Suboption)**	• 8 LLP licenses eligible[1], while all other LLP licenses ineligible. • Greater potential for voluntary cooperative agreements with CPs and reduced halibut PSC • Limited potential spillover effects in BSAI trawl CV Pacific cod fishery	• Most motherships continue to participate in fishery since offshore processing opportunities are still available	• Continued participation, but effort will depend on BS pollock ITAC levels • Greater potential for voluntary cooperative agreements with eligible LLP licenses
Suboption 1.1.2	• 3 LLP licenses eligible, while all other LLP licenses ineligible. • Greatest potential for voluntary cooperative agreements with CPs relative to all other suboptions under Option 1 and greatest potential for reduced halibut PSC • Greatest potential for spillover effects in BSAI trawl CV Pacific cod fishery through increased fishing effort relative to all other suboptions under Option 1	• Most motherships will exit the fishery since offshore processing opportunities are limited relative to all other suboptions under Option 1	• Continued participation, but effort will depend on BS pollock ITAC levels • Greatest potential for voluntary cooperative agreements with eligible LLP licenses relative to all other suboptions under Option 1
Suboption 1.2.1	• 10 LLP licenses eligible, while all other LLP licenses ineligible • Greater potential for voluntary cooperative	• Greatest opportunity for motherships to continue to participate in fishery relative to all other suboptions under Option 1	• Continued participation, but effort will depend on BS pollock ITAC levels • Greater potential for voluntary cooperative

	Catcher vessels	Motherships	AFA Catcher processors
	agreements with CPs and lower halibut PSC • Limited potential for spillover effects in BSAI trawl CV Pacific cod fishery		agreements with eligible LLP licenses
Suboption 1.2.2	• 7 LLP licenses eligible, while all other LLP licenses ineligible. • Greater potential for voluntary cooperative agreements with CPs and lower halibut PSC • Limited potential for spillover effects in BSAI trawl CV Pacific cod fishery	• Most motherships continue to participate in fishery since offshore processing opportunities are still available	• Continued participation, but effort will depend on BS pollock ITAC levels • Greater potential for voluntary cooperative agreements with eligible LLP licenses
Option 2			
Option 2.1	• Could provide harvesting opportunities for ineligible LLP licenses during periods of high BSAI yellowfin sole TAC • Creates an adversarial environment during harvest specifications if suboption 1.1.2 is selected	• Could provide processing opportunities given ineligible LLP licenses could harvest BSAI TLAS yellowfin sole	• Continued participation, but effort will depend on BS pollock ITAC levels
Option 2.2	• Could provide harvesting opportunities for ineligible LLP licenses • Balance between number of eligible LLP licenses and the appropriate floor limit for the ineligible LLP licenses is necessary for success of this option • Could create an adversarial environment during harvest specifications if suboption 1.1.2 is selected	• Could provide processing opportunities given ineligible LLP licenses could harvest BSAI TLAS yellowfin sole above established floor limit	• Continued participation, but effort will depend on BS pollock ITAC levels

[1] For purposes of Table 1, an LLP license indicated as "eligible" means an LLP license that was assigned to a catcher vessel that made landings which meet the qualifying criteria described under the Council's preferred Alternative 2, Suboption 1.1.1, and the LLP license is eligible to receive a BSAI TLAS yellowfin sole directed fishery endorsement. An LLP license indicated as "ineligible" means that LLP license was not assigned to a catcher vessel that made landings that meet the qualifying criteria described under the Council's preferred Alternative 2, Suboption 1.1.1, and the LLP license is not eligible to receive a BSAI TLAS yellowfin sole directed fishery endorsement.

2.7.6 Implementation Issues

Determining trip target landings assigned to an LLP license

To evaluate whether an LLP license with a Bering Sea trawl endorsement meets the minimum landing requirements to be eligible for a BSAI TLAS yellowfin sole directed fishery endorsement, NMFS would assign a qualified landing to an LLP license, if: (1) that LLP license was assigned to a vessel, using trawl gear and operating under the authority of that LLP license, that made a trip target landing in the BSAI TLAS yellowfin sole directed fishery during any year from 2008 through 2015; and (2) the catch from that landing of BSAI TLAS yellowfin sole was delivered to a mothership for processing.
NMFS can determine which and how many landings may be assigned to a specific LLP license during a particular time frame. NMFS requires that an LLP license designate a specific vessel on which it was

being used under 50 CFR 679.4(k). This requirement allows NMFS to assign landings to a specific LLP license. NMFS would provide LLP license holders with an opportunity to provide additional information regarding landings during the implementation of this regulation. The process for notifying LLP license holders and resolving disputes concerning landings claims is discussed below

If more than one LLP license was assigned to a CV that made at least one trip target in the BSAI TLAS yellowfin sole fishery sector during the qualifying period (2008 through 2015), then those LLP licenses that had a vessel designated on it when the vessel made a trip target landing in a BSAI TLAS fishery during the qualifying period would be eligible to receive credit for the qualifying landing. The proposed action would require that the vessel owner specify only one LLP license to receive credit with the qualified landing(s) made by that vessel. In any such case, NMFS would notify the vessel owner that he or she must inform NMFS which one of the eligible LLP licenses is to receive credit for the landing(s) for purposes of establishing eligibility for a BSAI TLAS yellowfin sole directed fishery endorsement. This provision would ensure that in cases where more than one LLP license was assigned to a vessel when a BSAI TLAS trip target landing was made, only one license assigned to that vessel would be credited with the landing. Because NMFS, and in many cases vessel owners and operators, did not specify how specific landings should be assigned to multiple LLP licenses assigned to a vessel at the time a landing was made, this provision would resolve any disputes that may arise about the assignment of specific landings by crediting only one LLP license used on that vessel when a landing was made.

If the vessel owner does not hold an LLP license to which a BSAI TLAS yellowfin sole directed fishery endorsement may be assigned on the effective date of this rule, or if a vessel owner disagrees with the LLP license to which NMFS assigns the BSAI TLAS yellowfin sole directed fishery endorsement, the vessel owner would have the opportunity to challenge NMFS' determination.

Process for assigning BSAI TLAS yellowfin sole directed fishery endorsements

NMFS would create an official record with all relevant information necessary to assign eligible landings to specific LLP licenses. Prior to modifying any LLP licenses with the addition of a BSAI TLAS yellowfin sole directed fishery endorsement, NMFS would notify via mail all BSAI trawl gear LLP license holders whether NMFS data indicate that their LLP license(s) would receive a BSAI TLAS yellowfin sole directed fishery endorsement. NMFS data would comprise the official record that is used to assign BSAI TLAS yellowfin sole directed fishery endorsements. Should an LLP license holder disagree with NMFS' official record, NMFS would provide an opportunity for a person to submit information to rebut the presumptions made by NMFS.

The official record created by NMFS would contain vessel landings data and the LLP licenses to which those landings would be attributed. Evidence of the number and amount of trip target landings in the BSAI TLAS and the subset of BSAI TLAS yellowfin sole directed fisheries would be based only on legally submitted NMFS weekly production reports for CPs and State of Alaska fish tickets for CVs. Historically, NMFS has only used these two data sources to determine the specific amount and location of landings, and NMFS proposes to continue to do so under this action. In order to ensure that offshore landings of trip target BSAI TLAS and BSAI TLAS yellowfin sole directed fisheries are properly attributed to an LLP license, NMFS would assign any delivery of trip target BSAI TLAS and BSAI TLAS yellowfin sole to a mothership up to seven days after the closure of the BSAI TLAS and BSAI TLAS yellowfin sole seasons for the qualifying years to an LLP license. The seven-day period would reasonably accommodate any final deliveries, and is consistent with the approach NMFS has used in other management programs to assign catch to an LLP license (e.g., Central Gulf of Alaska Rockfish Program). The official record

also would include the records of the specific LLP licenses assigned to vessels and other relevant information necessary to attribute landings to specific LLP licenses. NMFS would presume the official record is correct, and a person wishing to challenge the presumptions in the official record would bear the burden of proof through an evidentiary and appeals process.

NMFS would mail a notification to the holder of each LLP license with a BSAI trawl gear designation, using the address on record at the time the notification is sent, about the eligibility of the license for a BSAI TLAS yellowfin sole directed fishery endorsement for that LLP license. NMFS would provide information concerning the proposed effects of any changes to any LLP license to the LLP license holder, and would provide a single 30-day evidentiary period from the date that notification is sent for an LLP license holder to submit any information or evidence to demonstrate that the information contained in the official record is inconsistent with his or her records.

An LLP license holder who submits claims that are inconsistent with information in the official record would have the burden of proving that the submitted claims are correct. NMFS would not accept claims that are inconsistent with the official record, unless they are supported by clear written documentation. NMFS would evaluate additional information or evidence to support an LLP license holder's inconsistent claims submitted prior to or within the 30-day evidentiary period. If NMFS determines that the additional information or evidence proves that the LLP license holder's claims are correct, NMFS would act in accordance with that information or evidence. However, if, after the 30-day evidentiary period, NMFS determines that the additional information or evidence does not prove that the LLP license holder's claims were correct, NMFS would deny the claim. NMFS would notify the applicant that the additional information or evidence did not meet the burden of proof to overcome the official record through an initial administrative determination (IAD).

NMFS' IAD would indicate the deficiencies and discrepancies in the information or the evidence submitted in support of the claim. NMFS' IAD would indicate which claims could not be approved based on the available information or evidence, and provide information on how an applicant could appeal an IAD. The appeals process is described under 15 CFR part 906 (79 FR 7056, February 6, 2014). A person who appeals an IAD would be eligible to participate in the BSAI TLAS yellowfin sole fishery using the disputed LLP license with the claimed endorsements listed on the LLP license until final action by NMFS on the appeal. NMFS would reissue as interim LLP licenses any LLP licenses pending final action by NMFS. Once final action has been taken, NMFS would reissue the LLP license as a final non-interim LLP license. NMFS would prohibit the transfer of an interim LLP license until the appeal is resolved. Transfer restrictions would be imposed on interim LLP licenses to ensure that a person would not receive an LLP license by transfer and have the endorsement modified through an appeal process that was initiated and conducted by the previous LLP license holder—a process that a transferee could not control and which could substantially affect the value and utility of that LLP license.

If a person does not dispute the notification of changes in their LLP license endorsements, or upon the resolution of any inconsistent claims, a revised LLP license with the appropriate endorsements would be reissued to the LLP license holder.

2.7.7 Summation of the Alternatives with Respect to Net Benefit to the Nation

Overall, this action is likely to have a limited effect on net benefits to the Nation. In large part, the action affects distributional equities among CVs harvesting the BSAI TLAS yellowfin sole allocation and the processing of that harvest by offshore processors. There is some potential benefit for increased producer surplus through voluntary cooperative agreements amongst CVs with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement and participating CPs. Participants with an LLP license assigned a BSAI TLAS yellowfin sole directed fishery endorsement would be able to slow the pace of fishing and processing, thus potentially reduce expenditures on inputs and increase outputs (i.e., quality and quantity) slightly. Although there is likely a greater potential for cooperative management of the BSAI TLAS yellowfin sole directed fishery under the proposed action relative to status quo, the ability of the CPs to harvest a significant portion of the BSAI TLAS yellowfin sole directed fishery could inhibit voluntary cooperative management and therefore eliminate these potential producer surplus benefits.

3 Environmental Assessment

There are four required components for an environmental assessment. The purpose and need for the proposed action is described in Section 2.2 and the alternatives are described in Section 2.4. A list of preparers and agencies and persons consulted is included in Section 6. This section evaluates the impacts of the alternatives and options on the various environmental components. The economic and social impacts of this action are described in detail in the Regulatory Impact Review (RIR) portion of this analysis (Section 2).

Recent and relevant information, necessary to understand the affected environment for each resource component, is summarized in the relevant subsection. For each resource component, the analysis identifies the potential impacts of each alternative, and uses criteria to evaluate the significance of these impacts. If significant impacts are likely to occur, preparation of an environmental impact statement (EIS) is required. Although an EIS should evaluate economic and socioeconomic impacts that are interrelated with natural and physical environmental effects, economic and social impacts by themselves are not sufficient to require the preparation of an EIS (see 40 CFR 1508.14).

The National Environmental Policy Act (NEPA) also requires an analysis of the potential cumulative effects of a proposed action and its alternatives. An environmental assessment (EA) or (EIS) must consider cumulative effects when determining whether an action significantly affects environmental quality. The Council on Environmental Quality (CEQ) regulations for implementing NEPA define cumulative effects as:

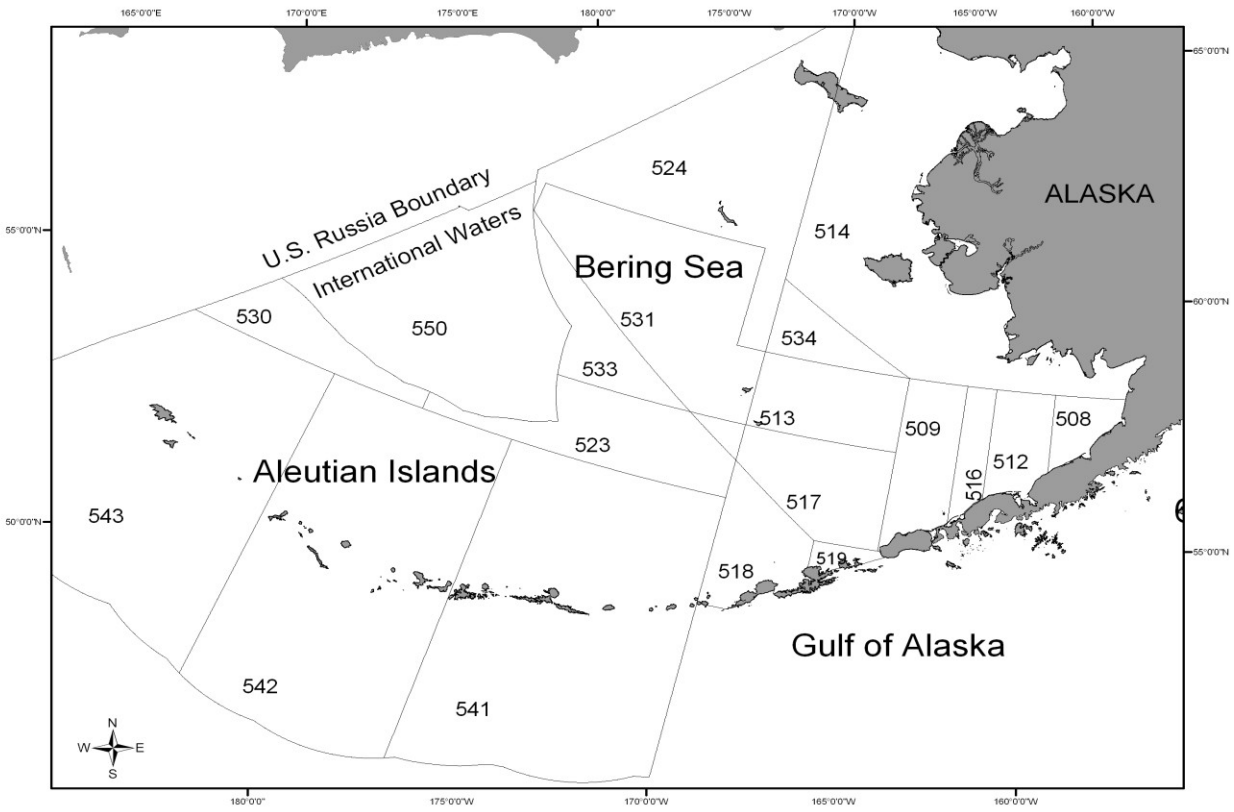
> *"the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7*).

The cumulative impact of reasonably foreseeable future actions is addressed in Section 3.2.3.

3.1 Description of the Area

The Council motion clarifies that the action would affect yellowfin sole harvested in the BSAI subarea by federally permitted vessels. The BSAI includes the Economic Exclusive Zone (EEZ) from 3 nm to 200 nm off Alaska. State of Alaska waters are those from 0 nm to 3 nm offshore (refer to Figure 3.1 for a map of the regulatory and reporting areas in the BSAI). Yellowfin sole are not harvested in the Aleutian Islands Area (areas 541, 542, and 543). Therefore, the proposed action focuses on the yellowfin sole fishery in Bering Sea.

Figure 3.1 Regulatory and reporting areas in the Bering Sea and Aleutian Islands.



3.2 Analytical Methods

The proposed regulatory change is not expected to affect all environmental components of the Bering Sea. As a result of the proposed action, the only potentially affected components are socioeconomic impacts to fishery participants and halibut prohibited species catch (PSC). Other environmental components: yellowfin sole, prohibited species other than halibut, marine mammals, seabirds, essential fish habitat, biodiversity and ecosystem health would not be affected by this proposed action. The effects of the alternatives on fishery participants and halibut PSC would be caused by limiting access to the fishery, which may have economic and distributional impacts to fishery participants as well as conservation impacts on halibut populations. Given the limited scope of this proposed action, the socioeconomic impacts to fishery participants and halibut in the Bering Sea management area are the only potential environmental components included in the EA. Economic and social effects from the proposed action are analyzed in Section 2.7. The resource components in relation to the alternatives are discussed below.

3.2.1 Documents incorporated by reference in this analysis

This EA relies heavily on the information and evaluation contained in previous environmental analyses, and these documents are incorporated by reference. The documents listed below contain information about the fishery management areas, fisheries, marine resources, ecosystem, social, and economic elements of the groundfish fisheries. They also include comprehensive analysis of the effects of the fisheries on the human environment, and are referenced in the analysis of impacts throughout this chapter.

Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (NMFS 2007).

This EIS provides decision makers and the public an evaluation of the environmental, social, and economic effects of alternative harvest strategies for the federally managed groundfish fisheries in the GOA and the Bering Sea and Aleutian Islands management areas and is referenced here for an understanding of the groundfish fishery. The EIS examines alternative harvest strategies that comply with Federal regulations, the Fishery Management Plan (FMP) for Groundfish of the GOA, the Fishery Management Plan (FMP) for Groundfish of the BSAI Management Area, and the Magnuson-Stevens Fishery Conservation and Management Act. These strategies are applied using the best available scientific information to derive the total allowable catch (TAC) estimates for the groundfish fisheries. The EIS evaluates the effects of different alternatives on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. This document is available from https://alaskafisheries.noaa.gov/fisheries/groundfish-harvest-specs-eis.

Stock Assessment and Fishery Evaluation (SAFE) Report for the Groundfish Resources of the BSAI (NMFS 2016).

Annual SAFE reports review recent research and provide estimates of the biomass of each species and other biological parameters. The SAFE report includes the acceptable biological catch (ABC) specifications used by NMFS in the annual harvest specifications. The SAFE report also summarizes available information on the ecosystems and the economic condition of the groundfish fisheries off Alaska. This document is available from http://www.afsc.noaa.gov/refm/stocks/assessments.htm.

Final Programmatic Supplemental Environmental Impact Statement (PSEIS) on the Alaska Groundfish Fisheries (NMFS 2004).

The PSEIS evaluates the Alaska groundfish fisheries management program as a whole, and includes analysis of alternative management strategies for the GOA and Bering Sea/Aleutian Islands (BSAI) groundfish fisheries. The EIS is a comprehensive evaluation of the status of the environmental components and the effects of these components on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. A Supplemental Information Report (NPFMC and NMFS 2015) was prepared in 2015 which considers new information, and affirms that new information does not indicate that there is now a significant impact from the groundfish fisheries where the 2004 PSEIS concluded that the impact was insignificant. The PSEIS document is available from https://alaskafisheries.noaa.gov/node/33552, and the Supplemental Information Report from https://alaskafisheries.noaa.gov/sites/default/files/sir-pseis1115.pdf.

Environmental Assessment/ Regulatory Impact Review/ Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) for Amendment 111 to the Fishery Management Plan for Groundfish of the Bering Sea/Aleutian Islands Management Area (NMFS 2016).

This document analyzes proposed management measures to reduce Pacific halibut PSC limits in the Bering Sea/Aleutian Islands (BSAI) groundfish fisheries. PSC limit reductions are considered for various sectors, including the BSAI trawl limited access sector, the Amendment 80 sector, longline CVs, longline catcher processors, and the Community Development Quota (CDQ) sector (i.e., a reduction to the CDQ's allocated prohibited species quota reserve). The objective of reducing PSC limits would be to minimize bycatch of halibut in the BSAI groundfish fisheries to the extent practicable, which may provide additional harvest opportunities in the directed halibut fishery. This document is available from https://alaskafisheries.noaa.gov/sites/default/files/analyses/finalbsai111earirfa0116.pdf.

3.2.2 Resource components addressed in the analysis

Table 3.1 shows the components of the human environment and whether the proposed action and its alternatives have the potential to impact those resource components and thus require further analysis. Extensive environmental analysis on all resource components is not needed in this document, because the proposed action is not anticipated to have environmental impacts on all resource components.

Any potential effects of the alternatives would result from limiting access of yellowfin sole harvest to CVs that have previously participated in the fishery at some level. Current fishing regulations (e.g., season and gear types), harvest limits for target species, bycatch, and prohibited species, and regulations protecting habitat and important breeding areas have been described and analyzed in previous NEPA documents, including the Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (NMFS 2007), the Final Programmatic Supplemental Environmental Impact Statement (PSEIS) on the Alaska Groundfish Fisheries (NMFS 2004), the EA/RIR/IRFA for Amendment 111 to the Fishery Management Plan for Groundfish of the Bering Sea/Aleutian Islands Management Area to Revise the Bering Sea/Aleutian Islands Halibut Prohibited Species Catch Limits (NMFS 2016), as well as in the 2016 SAFE document (NPFMC 2016) as described above and incorporated by reference.

None of the alternatives would change TAC amounts, halibut PSC limits, fishing methods, or areas closed to trawling. The amount of yellowfin sole harvest by vessels fishing with trawl gear in the Bering Sea yellowfin sole TLA fishery is expected to remain unchanged. None of the alternatives would change existing protection measures or allowable harvest amounts for important prey species. If access to the fishery is limited and fewer vessels participate relative to the last few years, the fishing season duration may be extended compared to the status quo. However, no effects from this action are expected on groundfish, ecosystem component species, marine mammals, seabirds, habitat, and the ecosystem that have not already been considered in previous NEPA analyses. The action has the potential to provide beneficial effects on halibut by reducing bycatch of that species, as described in Section 2.7.1.2 of the RIR. Further potential impacts from the action are limited to the social and economic components. The analysis of potential impacts on those components may be found in Section 2.7.

Table 3.1 Resources potentially affected by the proposed action and alternatives.

Potentially affected resource component							
Groundfish	**Halibut**	**Ecosystem Component Species**	**Marine Mammals**	**Seabirds**	**Habitat**	**Ecosystem**	**Social And Economic**
N	Y	N	N	N	N	N	Y

N = no impact anticipated by each alternative on the component.
Y = an impact is possible if each alternative is implemented.

3.2.2.1 Halibut

Prohibited species catch limits for halibut were analyzed in the EA/RIR/IRFA for Amendment 111 to the Fishery Management Plan for Groundfish of the Bering Sea/Aleutian Islands Management Area to Revise the Bering Sea/Aleutian Islands Halibut Prohibited Species Catch Limits (NMFS 2016). The proposed action limiting access for offshore trawl CVs in the BSAI trawl limited access sector of the yellowfin sole fishery analyzed in this EA/RIR will not affect halibut PSC limits, but does have the potential to reduce halibut PSC in this fishery, as described in Section 2.7.1.2. However, such savings are not guaranteed under any of the alternatives, nor are they predictable due to the suite of variables that can affect halibut PSC in this fishery. Variables affecting the halibut PSC in this fishery include, but are not limited to, fleet behavior, such as cooperation between vessels under agreement with the same fishing company or individual vessel adoption of industry "best practices" for halibut take reduction, reallocation of halibut PSC between fisheries and other fishery management decisions, and inter-annual variability of

environmental conditions and biological factors. While this action has potential to result in beneficial effects on halibut under some circumstances, there is no expectation of any negative effects on halibut, since PSC limits for this fishery are established for each year, and the fishery would be closed if that limit is reached before the yellowfin sole TAC is reached.

3.2.3 Cumulative effects analysis

NEPA requires an analysis of the potential cumulative effects of a proposed Federal action and its alternatives. Cumulative effects are those combined effects on the quality of the human environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of which Federal or non-Federal agency or person undertakes such other actions (40 CFR 1508.7, 1508.25(a), and 1508.25(c)). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over time. The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed if evaluating each action individually. Concurrently, the Council on Environmental Quality (CEQ) guidelines recognizes that it is most practical to focus cumulative effects analysis on only those effects that are truly meaningful. Based on the preceding analysis, the impacts of this proposed action and alternatives on all resources are either non-existent or *de minimus*; therefore there is no need to conduct an additional cumulative impact analysis.

3.3 NEPA Summary

One of the purposes of an environmental assessment is to provide the evidence and analysis necessary to decide whether an agency must prepare an environmental impact statement (EIS). The Finding of No Significant Impact (FONSI) is the decision maker's determination that the action will not result in significant impacts to the human environment, and therefore, further analysis in an EIS is not needed. The CEQ regulations at 40 CFR 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." An action must be evaluated at different spatial scales and settings to determine the context of the action. Intensity is evaluated with respect to the nature of impacts and the resources or environmental components affected by the action. These factors form the basis of the analysis presented in this Environmental Assessment/Regulatory Impact Review Analysis. The results of that analysis are summarized here for those criteria.

Context: For this action, the setting is the Bering Sea Management Area. The effects of this action are limited to this area and to the entities and individuals directly and indirectly participating in the commercial fisheries in the Bering Sea and to others who use the ocean resources of the Bering Sea. Although the proposed action concerns the use of a present and future resource, the expected impacts on the human environment (described below) are relatively small and localized. Therefore, it is unlikely that the action will have an impact on society as a whole or regionally.

Intensity: Considerations to determine intensity of the impacts are set forth in 40 CFR 1508.27(b) and NOAA's Companion Manual for NAO 216-6A, dated January 13, 2017. The sections of the EA that address the considerations are identified.

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target[6] species that may be affected by the action?

[6] Note, "target" refers to the target of the action, not "target groundfish" as defined in the FMP.

Response: No. The primary target species that may be affected by this proposed action is yellowfin sole (*Limanda aspera*). The proposed action would not change the TAC for yellowfin sole in the Bering Sea.

In general, the potential changes in harvest access as a result of the proposed action are not expected to impact yellowfin sole stock status in the Bering Sea. The yellowfin sole fisheries would continue to be managed under the annual groundfish harvest specifications process, which authorizes a maximum TAC of yellowfin sole in the Bering Sea groundfish fisheries. The proposed action would not change this process, the annual allocations of yellowfin sole, or the requirements that catch of yellowfin sole is maintained at or below allocated amounts. The effects of the harvest of the annual TACs on the sustainability of yellowfin sole are evaluated each year in the stock assessment and NEPA documents supporting the annual groundfish harvest specifications process. The proposed action would limit the number of catcher vessels (CVs) that could continue to harvest yellowfin sole and deliver their catch to motherships for processing based on some level of previous participation in the fishery. This proposed action is not expected to modify the overall harvests of yellowfin sole and is not expected to result in changes in the location of harvest. No potential impacts on prey availability and habitat are expected and therefore are not likely to affect the sustainability of the yellowfin sole stock (EA Section 3.2.2).

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

Response: No. The non-target species that could be impacted by this proposed action include 1) groundfish species in the Bering Sea that are managed under TAC limits, but that are not target species for this particular action, and 2) other non-target species that are not managed under TACs, including halibut PSC.

Relatively small amounts of other living marine resources that are not managed with TACs may inadvertently be caught by trawl CVs in the Bering Sea. However, because no additional fishing for yellowfin sole is expected under this action, the incidental catch of other non-target species also is not expected to change in any way that would jeopardize the sustainability of these species or beyond those anticipated for the BSAI groundfish fisheries as a whole (EA Section 3.2.2).

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in the fishery management plans (FMPs)?

Response: No. The proposed action is not expected to affect ocean and coastal habitats, EFH, or any ecosystem component of the environment beyond those anticipated for the BSAI groundfish fisheries as a whole. The proposed action will not increase overall harvests of groundfish, nor is there expected to be any shift in the location of fishing effort, methods, or gear types used by CVs fishing for yellowfin sole, and thus no change to the overall pattern of where and how groundfish are harvested in the BSAI fisheries. Any change in fishing season duration as a result of this action is not expected to affect ocean and coastal habitats, EFH, or any ecosystem component of the environment beyond those anticipated for the BSAI groundfish fisheries as a whole (EA Section 3.2.2).

4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

Response: No. Public health and safety will not be affected in any way not evaluated under previous actions or disproportionately as a result of the proposed action. The action under any of the alternatives will not change fishing methods (including gear types) or timing of fishing (EA Section 3.2.2).

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

Response: No. The proposed action would not adversely affect endangered or threatened species, marine mammals, or critical habitat of these species. The proposed action would not affect endangered and threatened species or critical habitat in any manner not considered in prior consultations on the BSAI groundfish fisheries. The harvest of yellowfin sole would continue to occur within the limits established in the annual groundfish harvest specifications by vessels the same as or similar to those currently fishing for yellowfin sole in the Bering Sea.

The vessels affected by the proposed action would continue to be required to comply with all Steller sea lion protection measures including no-transit areas, closed areas, and vessel monitoring system requirements. Therefore, this proposed action would result in no substantial change to the actions analyzed in the biological opinion dated April 2, 2014, in which NMFS found that the groundfish fisheries in the BSAI are not likely to jeopardize the continued existence of the western distinct population segment of Steller sea lions or destroy or adversely modify its designated critical habitat (EA Section 3.2.2).

The vessels affected by the proposed action would continue to be required to comply with all seabird protection measures including monitoring, reporting, and retention of any incidentally-taken endangered short-tailed albatross in the fishery. Therefore, this proposed action would result in no substantial change to the actions analyzed in the December 2015 biological opinion, in which the USFWS found that the groundfish fisheries in the BSAI are not likely to jeopardize the continued existence of the short-tailed albatross. NMFS determined, and USFWS concurred, that the BSAI groundfish fisheries may effect, but are not likely to adversely affect the threatened Alaska-breeding population of Steller's eider or adversely modify its designated critical habitat.

The proposed action would not adversely affect non-ESA-listed marine mammals at a population level for any species. The vessels affected by the proposed action would continue to be required to comply with all protection measures required under section 118 of the Marine Mammal Protection Act, including operating in a manner to avoid taking marine mammals incidental to commercial fishing operations to a zero mortality rate, reporting all marine injuries and mortalities to NMFS, carrying a NMFS-certified observer when required, and maintaining registration in the Marine Mammal Authorization Program.

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

Response: No. The proposed action will not make changes to the timing or location of fishing for yellowfin sole by trawl CVs in the Bering Sea. No significant changes in total harvests or where and how fishing occurs are expected. Any change in fishing season duration is not expected to have an impact on biodiversity and/or ecosystem function within the affected area. Therefore, the proposed action is not expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (EA Section 3.2.2).

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

Response: No. The EA/RIR analyzes the economic and social impacts of the proposed action and concludes that the social and economic impacts are not significant and not interrelated with natural or physical environmental effects (RIR Chapter 2).

8) Are the effects on the quality of the human environment likely to be highly controversial?

Response: No. The proposed action is not controversial with regard to the impacts of the proposed action on the human environment. No controversy was noted in public comments to the Council or NMFS about the data and information used to evaluate the impacts of the action on the human environment. The proposed action is anticipated to either limit future access to the fishery to CVs that have some level of previous participation in the fishery or would limit access to yellowfin sole harvest to CVs that have historically participated in the fishery in years where the yellowfin sole TAC is below an established threshold.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

Response: No. This action would not affect any categories of areas on shore. Because this action affects commercial fishing in the offshore waters of the Bering Sea**,** it will not impact any historic or cultural resources, park land, prime farmlands, wetlands, or wild and scenic rivers. The marine waters where the fisheries occur contain ecologically critical areas. Effects on the unique characteristics of these areas are not anticipated to occur with this action because the amount of fish removed by vessels would be within the specified TAC harvest levels (EA Section 3.2.2)

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Response: No. The proposed action will not make any changes to timing and location of fishing for yellowfin sole by trawl CVs in the Bering Sea. No significant changes in total harvests or where and how fishing occurs are expected. Any change in fishing season duration is not expected to be highly uncertain or involve unique or unknown risks. The effects of the BSAI groundfish fisheries on the human environment are evaluated each year in the stock assessment and NEPA documents supporting the annual groundfish harvest specifications process (EA Section 3.2.2).

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

Response: The impacts of this proposed action and alternatives on all resources are either non-existent or *de minimus*; therefore no additional cumulative impact analysis was needed, and no past, present, or reasonably foreseeable future actions were identified that would combine with the effects of this action to result in cumulatively significant impacts (EA Section 3.2.3).

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

Response: No. Because this action affects commercial fishing in the offshore waters of the Bering Sea, it will not impact any districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places. In addition, the EA did not identify any potential for the proposed action to cause loss or destruction of significant scientific, cultural, or historical resources (EA Section 3.2.2).

13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

Response: No. This action will not affect the introduction or spread of non-indigenous species, because it does not change fishing practices that may introduce such organisms into the marine environment (EA Section 3.2.2).

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

Response: No. The proposed action would limit the number of CVs that could continue to harvest yellowfin sole in the Bering Sea and deliver their catch to motherships for processing based on some level of previous participation in the fishery. This action does not establish a precedent for future action with significant effects, because this type of approach has been used in the past as a management tool for sector stability and to prevent a reduction in benefits the fishery provides to historic participants. Pursuant to NEPA, for all future amendments to the FMPs, appropriate environmental analysis documents will be prepared to inform the decision makers of potential impacts to the human environment and to implement mitigation measures to avoid significant adverse impacts (EA Section 3.2.2).

15) Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for the protection of the environment?

Response: No. This action does not create any known violation of Federal, State, or local laws or requirements imposed for the protection of the environment (EA Section 3.2.2).

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

Response: No. No cumulative effects were identified that would result in significant adverse effects on target or non-targeted species. (EA Section 3.2.3)

4 Magnuson-Stevens Act and FMP Considerations

4.1 Magnuson-Stevens Act National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and a brief discussion of how each alternative is consistent with the National Standards, where applicable. In recommending a preferred alternative, the Council must consider how to balance the national standards.

National Standard 1 — Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

The BSAI groundfish stocks, including yellowfin sole, are generally considered stable, and are not at a level that would correspond to being overfished and harvest is not at a level that would correspond to overfishing under the status determination criteria used for BSAI groundfish fisheries. None of the alternatives considered for this action would affect the status of the yellowfin sole stock in the BSAI. The BSAI yellowfin sole ABC and TAC will continue to be established through the annual harvest specifications process, and the processes by which NMFS manages the TLAS fishery to stay within its allocation will not change under the alternatives considered for this action. The BSAI TLAS fishery will continue to be fully utilized under the preferred alternative.

National Standard 2 — Conservation and management measures shall be based upon the best scientific information available.

The analysis for this amendment is based upon the most recent and best scientific information available, recognizing that some information (such as operational costs) is unavailable. It represents the best scientific information available.

National Standard 3 — To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The proposed action is consistent with the management of individual stocks as a unit or interrelated stocks as a unit or in close coordination. Yellowfin sole is assessed at the scale of the BSAI FMP, which is the geographic scope of the proposed action (Section 3.1). The yellowfin sole stock will continue to be managed as a single stock throughout its range under the proposed action.

National Standard 4 — Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The excessive share provisions of National Standard 4 require an allocation to be designed to deter any person or other entity from acquiring an excessive share of fishing privileges. The preferred Alternative is intended to mitigate the risk that a “race for fish” could develop, and help to maintain the consistently low rates of halibut PSC in this fishery. The preferred Alternative is fair and equitable, because it includes historic and current fishery participants within the period of time in which the Council considered the rate of fishing reasonable and did not promote a “race for fish.” The preferred Alternative is reasonably calculated to promote conservation by ensuring that current low halibut PSC rates are maintained.

Historically, the AFA CPs and non-AFA CVs that deliver to CPs acting as motherships have harvested the BSAI TLAS yellowfin sole directed fishery. The preferred Alternative would not limit eligibility for AFA CPs in this fishery or CVs harvesting BSAI TLAS yellowfin sole for delivery to shore plants.

National Standard 5 — Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

The proposed action would limit offshore CVs in the BSAI TLAS yellowfin sole directed fishery to mitigate the risk that a "race for fish" that could develop thereby reducing efficiency of BSAI TLAS yellowfin sole directed fishery resources. The benefit of an offshore CV limitation is balanced, to some degree, by options that provide opportunities for new entrants to the fishery when BSAI TLAS yellowfin sole allocation is sufficient to not unduly constrain historic participants by these new entrants. Production efficiencies realized by companies that own both motherships and CVs participating in the fishery would be mostly maintained under the proposed action. However, limiting the continued expansion of participating CVs also limits increased opportunities for mothership participation and, thus, the potential for increasing production efficiency.

National Standard 6 — Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

None of the proposed alternatives are expected to affect the availability of and variability in the BSAI TLAS yellowfin sole directed fishery resource in future years. The effects of the alternatives were analyzed to determine the impacts to affected participants over a broad range of years and yellowfin sole TAC levels. The harvest in the BSAI TLAS yellowfin sole fishery would be managed to and limited by the TAC, regardless of the proposed action considered in this amendment.

National Standard 7 — Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The proposed action does not duplicate any other management action. This action does not increase administrative burden or complicate the annual specifications publication and implementation process compared to the status quo. Therefore, the proposed measure would minimize cost.

National Standard 8 — Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of National Standard 2, in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

This action is not expected to have adverse impacts on communities or affect community sustainability. None of the action alternatives would extinguish harvest opportunities for CVs targeting BSAI TLAS yellowfin sole for deliver to shore plants located in BS or AI communities. The proposed action would only limit CVs that deliver to offshore processors. The proposed action would not affect CV harvest of yellowfin sole that is delivered to a shoreside processing plant.

National Standard 9 — Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

The proposed action would help maintain low bycatch. Additionally, the proposed action, through potential voluntary cooperative management of the BSAI TLAS yellowfin sole directed fishery among CVs with LLP licenses assigned a BSAI TLAS yellowfin sole directed fishery endorsement, could reduce halibut PSC apportioned to the BSAI TLAS yellowfin sole directed fishery, while providing for optimum yield of yellowfin sole.

National Standard 10 — Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The preferred alternative is not expected to have a measurable effect on safety at sea. The preferred alternative would not modify existing safety regulations, authorized gear, the size or type of vessels that may be used in the fishery, or otherwise affect the amount of species that could be harvested. The preferred alternative would not result in any changes in harvest limits that would be likely to encourage unsafe fishing practices. Because the primary impact of thes preferred alternative is to limit the number of CVs delivering their catch to motherships and CPs, any potential change in fishing operations or delivery patterns resulting from this proposed amendment would be expected to reduce harvest pressure in the fishery or slow the pace of fishing from recent and current patterns in the BSAI. While this may not provide a measurable effect on safety at sea, it could provide potential improvements to safety at sea. Current fishing and delivery practices in the BSAI have been determined to promote the safety of life at sea to the extent practicable.

4.2 Section 303(a)(9) Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that a fishery impact statement be prepared for each FMP amendment. A fishery impact statement is required to assess, specify, and analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for (a) participants in the fisheries and fishing communities affected by the plan amendment; (b) participants in the fisheries conducted in adjacent areas under the authority of another Council; and (c) the safety of human life at sea, including whether and to what extent such measures may affect the safety of participants in the fishery.

The RIR/EA prepared for this plan amendment constitutes the fishery impact statement. The likely effects of the proposed action are analyzed and described throughout the RIR/EA. The effects on participants in the fisheries and fishing communities are analyzed in the RIR chapter of the analysis (Chapter 2). The effects of the proposed action on safety of human life at sea are evaluated under National Standard 10, in Section 4.1. Based on the information reported in this section, there is no need to update the Fishery Impact Statement included in the FMP.

The proposed action affects the groundfish fisheries in the EEZ off Alaska, which are under the jurisdiction of the North Pacific Fishery Management Council. Impacts on participants in fisheries conducted in adjacent areas under the jurisdiction of other Councils are not anticipated as a result of this action.

4.3 Council's Ecosystem Vision Statement

In February 2014, the Council adopted, as Council policy, the following:

Ecosystem Approach for the North Pacific Fishery Management Council

Value Statement

The Gulf of Alaska, Bering Sea, and Aleutian Islands are some of the most biologically productive and unique marine ecosystems in the world, supporting globally significant populations of marine mammals, seabirds, fish, and shellfish. This region produces over half the nation's seafood and supports robust fishing communities, recreational fisheries, and a subsistence way of life. The Arctic ecosystem is a dynamic environment that is experiencing an unprecedented rate of loss of sea ice and other effects of climate change, resulting in elevated levels of risk and uncertainty. The North Pacific Fishery Management Council has an important stewardship responsibility for these resources, their productivity, and their sustainability for future generations.

Vision Statement

The Council envisions sustainable fisheries that provide benefits for harvesters, processors, recreational and subsistence users, and fishing communities, which (1) are maintained by healthy, productive, biodiverse, resilient marine ecosystems that support a range of services; (2) support robust populations of marine species at all trophic levels, including marine mammals and seabirds; and (3) are managed using a precautionary, transparent, and inclusive process that allows for analyses of tradeoffs, accounts for changing conditions, and mitigates threats.

Implementation Strategy

The Council intends that fishery management explicitly take into account environmental variability and uncertainty, changes and trends in climate and oceanographic conditions, fluctuations in productivity for managed species and associated ecosystem components, such as habitats and non-managed species, and relationships between marine species. Implementation will be responsive to changes in the ecosystem and our understanding of those dynamics, incorporate the best available science (including local and traditional knowledge), and engage scientists, managers, and the public.

The vision statement shall be given effect through all of the Council's work, including long-term planning initiatives, fishery management actions, and science planning to support ecosystem-based fishery management.

In considering this action, the Council is being consistent with its ecosystem approach policy. This action limits access for offshore CVs in the BSAI TLAS yellowfin sole directed fishery. This action directly supports the Council's intention to protect historic participants, mitigate the risk of a "race for fish," and help maintain consistently low rates of halibut PSC in the fishery.

5 Preparers and Persons Consulted

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BMansfield 7/10/17; rev 9/18/17; 9/29/17; rev 4/4/18; 4/20/18; 2/27/18
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