

A80 Strawman Proposal (Jan 23, 2019)

Intro: Below is the A80 sector's strawman. Unless otherwise noted, Figure 1 is the graphic representation of our proposal.

Survey: We would propose using alternative 2, option 1 - the NMFS bottom trawl survey index in two different applications.

1. Use the survey years 1998 – 2017 to determine the abundance average when computing “low” and “high” abundance estimates as described in the Council's objectives.
2. The annual A80 sector PSC limit would be based upon the preceding two years NMFS bottom trawl survey results, see Table (1). For example, 2022 PSC value available for A80 fisheries would be based upon the survey data averaged between 2020 - 2021. The reasoning behind averaging the two most recent years and other aspects of our proposal that affect inter-annual variability is discussed in the section titled inter-annual variability.

Starting Point: Our proposed starting point for the A80 sector is the 2016 PSC cap of 1,745 MT as is currently defined in regulations. This starting point represents status quo regulations and is reflective of the existing tools available to the A80 sector and current halibut abundance. This starting point is consistent with the Council's Oct 2018 motion Element 1, option 1.

Ceiling: Our proposed ceiling for the A80 sector is 2,325 mt. when halibut abundance is greater than or equal to 175,000. This ceiling would only occur when halibut are in very high abundance and there is less need for constraining bycatch. Two factors present in recent history suggest this ceiling is appropriate. First, when the pollock ABC is relatively low, flatfish TACs are set in the higher end of their range – this most recently occurred from 2008 - 2012. Second, halibut abundance and encounters were above average during that time frame, therefore a higher halibut allowance at those times is warranted. Our proposed ceiling caps halibut usages at reasonable and practicable levels, while allowing some opportunity for harvest of larger flatfish TACs.

While our proposed ceiling is consistent with the October 2018 Council motion regarding Element 2, Option 2, we would note that the ceiling proposed is based upon past environmental and fishery conditions. It is important to consider that given ongoing dynamic change in the Bering Sea ecosystem, species composition may change in unpredictable ways which could result in substantial increases to both flatfish and halibut abundances. Under such a scenario, it is possible that both flatfish and halibut may increase to levels not seen in the past 20 years. Therefore, we would like the ABM committee to consider that should halibut abundance as measured by the trawl survey rise to levels greater than 200,000, that PSC increased to 2,625mt. This scenario is captured in Figure 2.

Floor: Our proposed floor for the A80 sector is 1,412 mt when halibut abundance is less than 100,000. This floor generates halibut savings for the directed fishery at times of low abundance. Our proposed floor is consistent with the October 2018 Council motion regarding Element 3, Option 1. It is important to note that while the average A80 halibut PSC usage between 2015 – 2018 was approximately ~1,389 mt, the A80 sector left approximately 33,000 MT of A80 flatfish unharvested annually during that same time frame. Using average halibut PSC rates found in those flatfish fisheries during those years, it would take an additional 186 mt of halibut PSC annually (or 1,575 total) to harvest the full allocation of A80 flatfish. This is substantially more halibut than would be available under our proposed floor. In setting a halibut PSC floor at 2016 use when halibut is at low levels of abundance, the Council would essentially

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force the A80 sector to forego approximately \$72.5M based upon the current flatfish values of \$2,200/mt.

Two factors should be kept in mind in considering the proposed floor relative to Amendment 80 halibut usage. First, the halibut savings during low halibut usage years was unevenly distributed across the vessels and companies in our fleet. Some companies were constrained by their allocations, while others were not. This is likely to continue to be the case, as companies with higher halibut usage rates are constrained by a cap that is set at the floor. Second, participants continue to have an incentive to leave halibut in the water regardless of the floor because of the sector's halibut avoidance plan. In other words, usage is likely to never reach the cap under any circumstance, including when the cap is set at the floor.

Year to Year Variation: Our proposal is indexed to abundance using the NMFS bottom trawl survey index. The time series selected for constructing the stair steps is 1998-2017, with the mean trawl survey index during this time series being approximately 152,000. Flexibility in the cap is provided by decreasing the cap in a stepwise fashion when halibut abundance decreases and increasing the cap stepwise, as abundance increases. Our proposal provides for stability on an inter-annual basis by having a long step when the trawl survey index is between 124,000 and 175,000. Since 1998, 70% of the seasons the trawl survey index was in this range (14/20). Using a two-year average from the most recent two years of trawl survey, biomass estimates should also generate some stability for where we are on the stairs of the cap.

- For the stair with the lowest biomass values (floor) in the historical range, the trawl survey index has never been below 100,000 although in 2002 it was 101,706. Two times it has been between 100,000 – 124,000. At levels below 100,000, the PSC limit would fall to 1,412 mt.
- For the stair with the highest biomass values (ceiling) in the historical range, the trawl survey index was over 175,000 four times (2010-2013) and these are the highest values in the trawl survey since 1982. At these levels, the PSC limit could only rise to 2,325 mt (but as noted above, usage is unlikely to ever reach the limit).
- The 2017 trawl survey index is 126,684, which is moderately low by historical measure, and that is why the PSC limit at this step is the status quo limit (1,745 mt).

Note: As presented in the table above, during some years the trawl survey was noted to decline by approximately 28% from 2001 – 2002, only to increase the following year by 30%. This suggests that there is significant “measurement error” at times with the trawl survey abundance estimate of biomass because it is nearly impossible that halibut abundance could have dropped and then rebounded so significantly over a two-year period. Like was done for the Bering Sea crab PSC caps, our proposed stair steps would help mitigate this “noise” within the survey to help avoid a high magnitude of inter-annual change that could be very disruptive to both directed halibut users and the Amendment 80 fleet. Averaging the current and last year's abundance will also help mitigate potential for high inter-annual change. A summary of the trawl survey is provided in Table (1) .

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Figure 1: Scenario B – Simplified Trawl Index to A80 Halibut

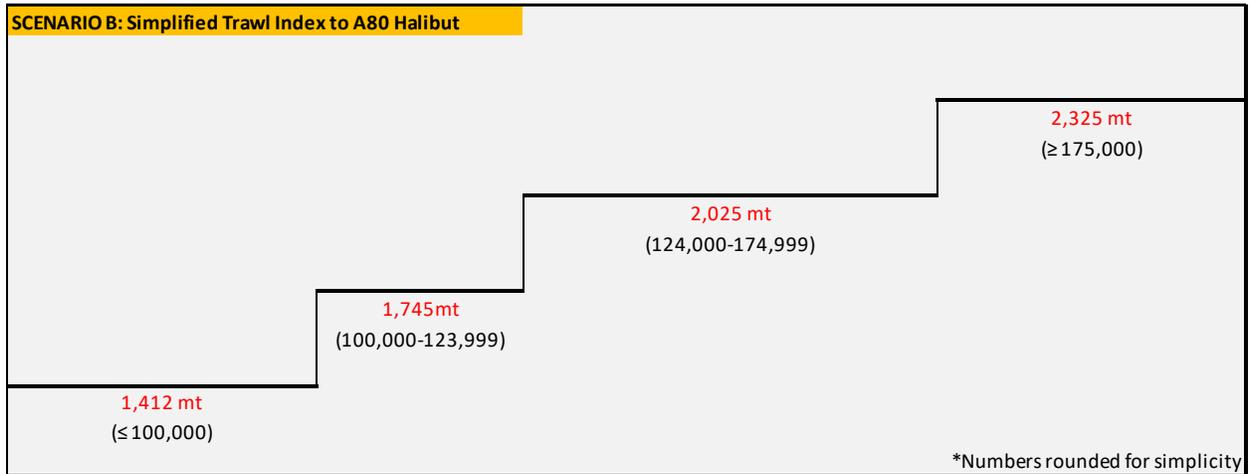
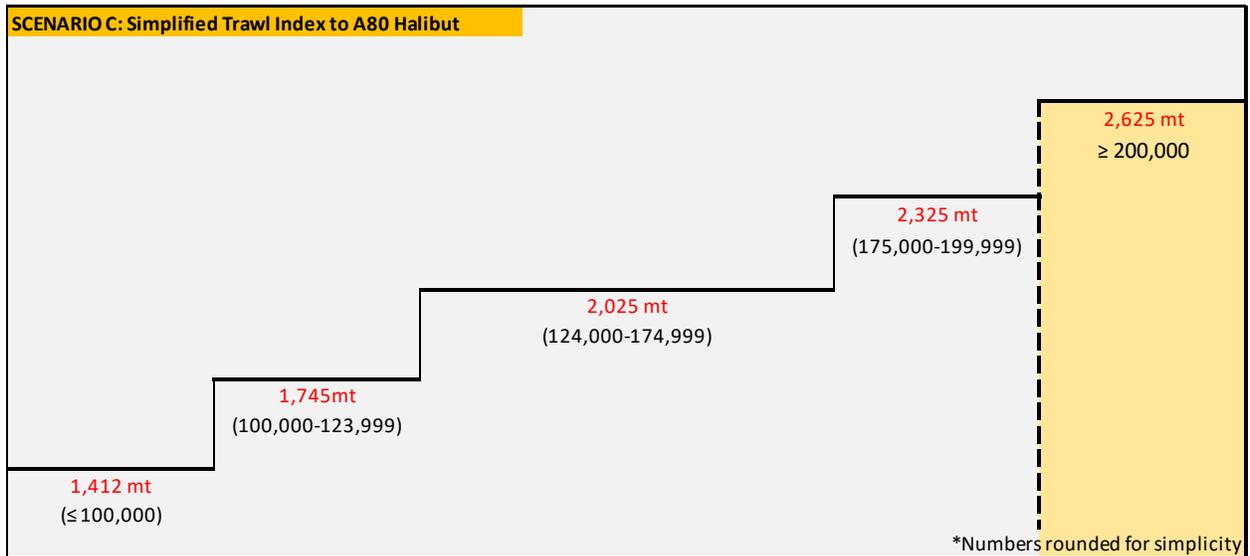


Figure 2: Scenario C – Simplified Trawl Index to A80 Halibut (with ceiling set at 2,625 mt)



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Table 1: NMFS Bottom Trawl Survey Annual Variability 1998 – 2017

Year	Trawl Survey	Annual Change	2 Year Avg
1998	161,256		
1999	129,116	-20%	
2000	118,677	-8%	-9%
2001	141,219	19%	7%
2002	101,706	-28%	-11%
2003	132,151	30%	4%
2004	130,075	-2%	6%
2005	132,518	2%	1%
2006	155,964	18%	9%
2007	143,903	-8%	0%
2008	140,247	-3%	-3%
2009	168,102	20%	9%
2010	195,535	16%	13%
2011	186,666	-5%	1%
2012	189,000	1%	-1%
2013	183,989	-3%	-1%
2014	171,427	-7%	-4%
2015	172,237	0%	-2%
2016	153,704	-11%	-5%
2017	126,684	-18%	-11%

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Assessment of A80 Sector Proposal as Compared to Council Objectives

Objective #1: Halibut PSC limits should be indexed to halibut abundance.

Rationale: By choosing the NMFS bottom trawl survey index for the years 1998 – 2018, we are indexing to the survey that is most reflective of the halibut PSC we encounter. We would note however that while the bottom trawl survey is more representative of abundance for trawl fisheries than the IPHC setline survey, the NMFS bottom trawl survey is designed to index halibut abundance over the entire BS shelf and areas we fish are a small subset of the Bering Sea shelf where flatfish are schooled up. Additionally, the BS trawl survey does not correspond to the time of year for most of our flatfish operations and towing speeds for the flatfish. For example, over the last several years, our encounter rate of halibut has increased while halibut abundance as measured by the trawl survey in previous years has declined. This is something to consider as we further refine how to apply an index.

Objective #2: Halibut spawning stock biomass should be protected especially at lower levels of abundance.

Rationale: Our strawman reduces our PSC limit in years of low halibut abundance.

Objective #3: There should be flexibility provided to avoid unnecessarily constraining the groundfish fishery particularly when halibut abundance is high.

Rationale: Our strawman provides some increase in PSC limit available to the sector in years of high halibut abundance.

Objective #4: Provide for directed halibut fishing operations in the Bering Sea.

Rationale: Reductions of halibut PSC by all sectors over the last several years has supported continued halibut fishing operations in the Bering Sea. However, because catch levels for the directed halibut fishery are managed by the IPHC, reductions in bycatch alone cannot provide for a directed fishery. It should be noted that using bycatch reductions alone as a mechanism to supplement the directed halibut fishery is an inefficient use of halibut bycatch and that there are likely management mechanisms and tools which may provide halibut to the directed fishery in the Bering Sea and affected communities that depend on that fishery in a more efficient and cost effective way.

Objective #5: Provide for some stability in PSC limits on an inter-annual basis.

Rationale: The longer/flatter stair steps approach provides for a reasonable level of stability for the A80 sector. The inter-annual variability is stair-stepped at appropriate break points which should minimize impacts to the A80 sector. Averaging the current and last year of the trawl survey biomass estimate also creates some additional stability.