CBSFA Attachment - C1BSAI Halibut ABM PSC Limits, Initial Review

Structure and rationale for Alternative 3.3a

Indices:

Base the indices on the time frame 1998 – 2018 and standardize the primary index to the most recent year.

We propose standardizing the secondary index to the most recent year, the same year as the primary index. (When we first submitted this scenario in January 2019, the most recent year was 2017; the analysts used 2018 and we are fine with that.) This makes the most sense as it eliminates the effect of the secondary index on the starting point compared to standardizing the secondary index to its mean value. Since we are proposing the secondary index have an effect on the PSC limit when above or below a value of 1 (Element 4 below), if the secondary index were standardized to its mean value, the value for 2017 would be below 1, which results in an immediate reduction in the PSC limit from a chosen starting point. We don't believe that was the Council's intent of how the starting point should operate.

Alternative:

Alternative 3: Primary and secondary indices are used to set trawl and/or non-trawl PSC limit.

Option 2: Primary index is Area 4 setline survey; secondary index is EBS trawl survey.

The secondary index modifies the PSC limit after the primary index is applied, when the secondary index is in a "high state" or a "low state" (as defined by Element 4 breakpoint options). The extent to which the secondary index influences the PSC limit above or below these breakpoints is determined by selection of options under Element 5.

For each alternative above, the PSC limit will be proportional to the primary index in a 1:1 fashion (e.g., when the index goes up 10%, the PSC limit goes up 10%) prior to modifications by the secondary index and prior to the application of Elements 2 and 3 (floors and ceilings).

Rationale:

One of the Council objectives is, "Halibut spawning stock biomass should be protected especially at lower levels of abundance. " Another Council goal in the Problem Statement: "provide for directed halibut fishing operations in the Bering Sea."

The Area 4 setline survey is most representative of the abundance of the spawning biomass, which also corresponds to the size of halibut caught in the commercial halibut fishery. The survey is used by the IPHC along with other information to arrive at their annual assessment of the acceptable mortality of halibut in the directed fisheries.

To help achieve these Council goals and objectives, the setline survey should be used as the primary measure of the abundance of halibut spawning biomass, as well as legal size halibut in the Bering Sea.

The setline survey by itself will meet the Council problem statement goals that "halibut PSC limits should be indexed to halibut abundance" and that of "avoid[ing] unnecessarily constraining the groundfish fishery particularly when halibut abundance is high." Historically, O26 bycatch has comprised 60% to 80% of bycatch removals in Area 4 by weight.

Additional consideration for achieving this goal is a secondary index based on the Bering Sea trawl survey, which may reflect an increased encounter rate by the trawl groundfish fisheries during times of high juvenile abundance. Smaller sizes of halibut catalogued in the trawl survey are a significant component of the halibut encountered as bycatch in the Bering Sea groundfish fisheries. These smaller sizes are not captured in the setline survey. Incorporating the trawl survey halibut numbers in some fashion captures all sizes in the overall measure of halibut abundance in the Bering Sea.

Elements and Options:

The following elements and options are exclusive to Alternatives 2 – 4.

Element 1 – Starting point for PSC limit

2017 PSC use (1,958 mt)

Rationale:

The group agreed on a starting point that is lower than the other options in the motion. In repeated testimony, directed halibut users have advocated for using the 2017 actual bycatch use as a reasonable starting point, representing the capabilities of the bycatch users to manage their bycatch at a much lower level than the current static bycatch cap – in fact, at 56% of the cap.

The two other options represent 1) the (current) 2016 PSC limit of 3,515 mt, and 2) 2016 use of 2,354 mt. The current static cap is not an acceptable starting point for the action before the Council. The original impetus for the ABM action was to explore better management of halibut bycatch, and to reduce bycatch, through linking bycatch use to halibut abundance in a similar way as directed halibut use is

determined by halibut abundance. To use the current cap, set in 2015, when all Council members indicated it was just the first step in reducing bycatch, cannot be thought of as anything other than one bookend.

The second option of 2016 use does not provide a real contrast for the analysis. It makes little sense to have as a starting point a number higher than the most recent two years of actual bycatch.

Element 2 – Maximum PSC limit (ceiling)

Option: 2016 PSC limit (3,515 mt)

Rationale:

The intent of this Council action would be subverted if the ceiling were to be set higher than the current cap. The current cap set in 2015 was based in part on the premise that the ability of the groundfish fisheries to reduce bycatch in response to lower caps was unknown and unproven. In the three years since that action the groundfish fisheries have developed new tools and demonstrated an ability to control bycatch that does not warrant a ceiling higher than the current cap. To do so would be contrary to the Council intent, and to the MSA mandate to reduce bycatch to the extent practicable.

Element 3 – Minimum PSC limit (floor)

Option: 1,000 mt

Rationale:

This is the group's preferred option for the floor, lower than the other options suggested. The purpose of a floor is to allow some minimum level of groundfish fisheries to still occur at very low halibut stock sizes. Halibut stocks are currently healthy with spawning stock biomass estimated to be at SB43. The tool we are using shows that the other options for a floor in the Council motion could prevent reduction in PSC at halibut spawning stock sizes only 10% below current levels (providing the trawl index remains at 2017 levels). This does not meet the intent of including a floor element to allow a minimum level of groundfish effort at very low halibut stock sizes.

Therefore we are recommending a lower floor of 1,000 Mt be considered that allows PSC caps to continue to decrease until the primary index declines by approximately 49% (assuming declines are proportional in Area 4 and the GOA).

The Council should also consider incorporating a "cliff" at the very low end of halibut abundance.

Element 4 – Breakpoint for secondary index (Alternative 3 only)

Option 2. Index is above or below average

Rationale:

The purpose of using the trawl survey as a secondary index is to modify the PSC limit in response to changes of abundance of juvenile halibut, which historically make up 20 to 40% of Area 4 bycatch by weight. We chose the option that allows the secondary index to be applied at any difference of the index above or below average, which provides the most sensitive response to changes in juvenile abundance, and is consistent with the Council goal of indexing PSC limits to halibut abundance.

The other option would not allow the secondary index to affect the PSC limit until it is 25% above or below the average. While this would be responsive to the Council goal of providing for "some stability in PSC limits on an inter-annual basis," it would also limit the responsiveness of the PSC limit to the secondary index.

Element 5 – Magnitude of the response for secondary index (Alternative 3 only)
Up to 2 options may be chosen

Option 1. Up faster than 1:1
Option 2. Up slower than 1:1
Option 3. Down faster than 1:1
Option 4. Down slower than 1:1

Rationale:

We chose those options that allow the impact of the secondary index to be less than 1:1.

We are recommending for analysis Option 2, up slower than 1:1, with a value no greater than 0.35, as only 20% to 40% of Area 4 bycatch by weight are U26 halibut and indexed by the trawl survey. Responsiveness rates for the secondary index greater than 0.4 may allow the PSC limit to increase by amounts greater than the percentage of U26 encountered, thus allowing the O26 portion of bycatch to exceed the amount dictated by the primary index.

We are also recommending for analysis Option 3, down slower than 1:1, also at 0.35, with essentially the same rationale. The effect of the secondary index either up or down should not exceed the actual effect of the smaller halibut on the directed fishery opportunities.

Element 6: PSC limit responsiveness to abundance changes. This element would limit the annual rate of change of PSC limits. This element could be applied to limit the amount of change of the PSC limit on an annual basis.

Option: PSC limit varies per year no more than: 10 to 20% up and 20% down

Rationale:

The PSC limit needs to be adequately responsive to large fluctuations in the abundance of halibut, as measured by the primary and/or secondary indices, so the 5% option is not viable. Our proposed option allows for a range of options to be chosen for the upward movement of the PSC limit, while maintaining a 20% change allowed in the downward movement of the PSC cap. This permits consideration of the Council objectives of protecting the halibut biomass at lower levels of abundance, and providing for a directed halibut fishery in the Bering Sea

Delete the following Suboption:

"Suboption: This element could be applied to limit the amount of change between the current PSC limits and the implementation of this action."

Rationale:

It was not the intent of the Council to constrain the PSC limit at initial implementation – the first year of the program being in effect. This suboption would do that, particularly at the lower options of 5% or 15%.