ADVISORY PANEL
Motions and Rationale
October 1-5 2019 - Homer, AK

C1 BSAI Halibut ABM

AP Motion 1

New introduction:

The AP recommends that the Council make the following changes to the ABM motion, and direct staff to make the following additions and revisions to the ABM operating model. The resulting draft EIS should come back to the Council for another initial review.

The proposed additions and revisions are in underline and deletions are in strikethrough.

Apportionment:

The analysis should clearly demonstrate the effects of the alternatives on the resulting allocations to the Amendment 80, BSAI trawl limited access, non-trawl, and CDQ sectors. Allow the CDQ PSC cap to vary with abundance in the same manner as the trawl <u>and non-trawl sectors and apportioned based on the CDQ sector's historical PSC use between the two gear groups.</u>

Indices:

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

Option 1: standardize secondary index to the most recent year.
Option 2: do not standardize the primary index and use the average index value of the previous two years.
Alternatives:
Alternative 1: No action
Alternative 2: Single index used to set trawl and/or non-trawl halibut PSC limit.
Option 1: NMFS EBS bottom trawl survey index.
Option 2: IPHC Area 4 setline survey index.
Alternative 3: Primary and secondary indices are used to set trawl and/or non-trawl PSC limit.
Option 1: Primary index is EBS trawl survey, secondary index is Area 4 setline survey.
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.

The following elements and options ~~are exclusive~~ <u>apply</u> to Alternatives 2 and 3

Element 1 – Starting point for PSC limit (must be selected)
Option 1. 2016 PSC limit (3,515 mt)
Option 2. 2016 use (2,354 mt)
Option 3. 2017 use (1,958 mt)

Element 2 – Maximum PSC limit (ceiling) (must be selected)
Option 1. 2016 PSC limit (3,515 mt)
Option 2. 2015 PSC limit (4,426 mt)

Element 3 – Minimum PSC limit (floor) (must be selected)
Option 1. 2016 use (2,354 mt)
Option 2. ½ of 2016 PSC limit (1,758 mt)
Option 3. ½ of 2016 PSC use (1,177 mt)
Option 4. 1,000 mt

Element 4 – Breakpoint for secondary index (Alternative 3 only)
Option 1. Index is 25% below or above average
Option 2. Index is above or below average

Element 5 – Magnitude of the response for the primary or secondary index (Alternative 3 only optional) *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
Option 5. 1:1

Element 6: PSC limit responsiveness to abundance changes. (optional)
This option 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 1: PSC limit varies no more than 5% per year
Option 2: PSC limit varies no more than 15% per year
Option 3: PSC limit varies no more than 25% per year

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

Element 7: Breakpoints.
Specify breakpoints in a lookup table with a maximum of 12 breakpoints defined in each dimension, resulting in a maximum 11X11 lookup table. Each index may be standardized using one of the following options:
Option 1: standardize to the average of 1998-2018
Option 2: standardize to the current year

<u>Element 8: B30 adjustment (optional)</u>
<u>When coastwide spawning biomass falls below B30, multiply PSC limit by B/B30</u>

~~Additional comments:~~

~~Council recommends that the SSC review the proposed (staff and stakeholder) scenarios to provide guidance if additional scenarios should be included in the analysis.~~

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Alternatives

Note: the following Table 2-1 is a summary of the Alternatives and Sub-alternatives included in the analysis.

To Alternative 3-3a, add new Element 8 above.

		Indices used		Elements						
				1	2	3	4	5	6	7
Alternative	Source	Primary	Secondary	Starting point	Ceiling	Floor	Breakpoints	Responsiveness	Constraint	Type
1	Status quo	NA	NA	3,515						
2-1	WG	By gear	NA	3,515	4,426	1,758	none	1:1	15% max	Continuous
2-1.a	WG	By gear	NA	3,515	4,426	1,758	none	1:1	none	Continuous
2-1.b	SSC	By gear	NA	1,958	4,426	1,758	none	1:1	15% max	Continuous
2-2	Stakeholder	By gear	NA	3,515	4,426	2,354	specified	Stairsteps	2 yr avg	Continuous
2-3	Stakeholder	By gear	NA	3,515	4,426	2,354	none	1:1	15% max	Continuous
2-4	Stakeholder	By gear	NA	2,018	3,515	1,000	Start	1:1 (low) 0.5:1 (high)	15% max	Continuous
3-1	WG	By gear	Other (mean)	3,515	4,426	1,758	±25%	1:1	15% max	Continuous
3-1.a	WG	By gear	Other (mean)	3,515	4,426	1,758	±25%	1:1	none	Continuous
3-1.b	WG	By gear	Other (mean)	3,515	4,426	1,758	±25%	2nd Index 0.5:1 (low), 1.5:1 (high)	15% max	Continuous
3-1.c	WG	By gear	Other (mean)	3,515	4,426	1,758	±25%	1:1	15% max	Discrete
3-1.d	SSC	By gear	Other (mean)	1,958	4,426	1,758	±25%	1:1	15% max	Continuous
3-2.a	Stakeholder	Gear (mean)	Other (mean)	2,941	4,124	1,758	none	Interpolated	15% max	Discrete
3-2.b	WG	Gear (mean)	Other (mean)	2,941	4,124	1,758	none	1:1	15% max	Discrete
3-3a	Stakeholder	Setline	Trawl (mean)	1,958	3,515	1,000	S.P	Secondary 0.35:1	20% max	Continuous
3-3a_update	Stakeholder	Setline	Trawl (2018)	1,958	3,515	1,000	S.P	Secondary 0.35:1	20% max	Continuous
3-3b	WG	Trawl	Setline (mean)	1,958	3,515	1,000	S.P	Secondary 0.35:1	20% max	Continuous

Performance metrics

Add the following performance metrics:

1. Potential performance metrics for objective "index PSC limits to halibut abundance"
    a) Rate of change of PSC is relative to rate of change of total biomass
    b) Rate of change of PSC is relative to rate of change of spawning biomass
2. Potential performance metrics for objective "provide for a directed fishery in 4CDE"
    a) The average percentage of the TCEY available to the Bering Sea directed fishery
    b) The probability that the percentage of the TCEY available to the Bering Sea directed fishery is greater than 54%
3. Potential performance metrics for objective "halibut spawning stock biomass should be protected, particularly at low levels of abundance"
    a) Rate of Bering Sea PSC limit reduction is equal to rate of SSB decline
    b) Probability of PSC limit exceeding TCEY
    c) Probability of PSC use exceeding TCEY

Model

Make the following changes and additions to the model:

a. add 30:20 control rule
b. extend the simulation beyond 20 years
c. model a very low spawning biomass and poor recruitment
d. adjust to incorporate U26 into TCEY
e. allow ratio between PSC limit and use to fluctuate
f. run the model with the assumption that PSC use equals PSC limit

Motion 1 passed 12-8

Rationale:

- *Attaching PSC limits to the abundance of halibut is consistent with Council, ADFG and IPHC management of all other species, including PSC limits for salmon and crab in the federal fisheries.*
- *The directed fishery currently serves as the only conservation mechanism in times of lower halibut abundance; as the TCEY decreases, the FCEY is lowered to protect the spawning biomass. Abundance based management would allow for a more equitable conservation burden to be shared between the directed and bycatch users.*
- *If the PSC exceeds the TCEY, a conservation issue would be triggered that could not be addressed under the current fixed cap management.*

Inclusion of CDQ language

- *Apportioning the CDQ from only the trawl sector PSC allocation under this action disproportionately funds the CDQ out of the trawl sector, slightly exacerbating the impact of any potential PSC reductions under this action on the trawl sector. Funding the CDQ allocation from the fixed and trawl sectors based on historical use (approximately 80% and 20%, respectively) would be more representative of how the cap is currently funded.*
- *If different indices are selected for the fixed gear and trawl sectors and those indices are moving in different directions, as reflected in the action, the commensurate portion of the CDQ PSC cap could either be over or under allocated.*

Addition of Element 8

- *This element provides a necessary conservation safeguard for the halibut stock, addressing the conclusion by the analysts that the alternatives, as constructed, do not currently meet the council's objective of "protecting the spawning biomass at low levels of abundance."*
- *This control rule impacts the PSC limit if the coastwide spawning biomass falls below 30% of its unfished state and mirrors the IPHC harvest control rule that would trigger steep declines in the directed fishery to protect the halibut resource. It is important to note that when halibut coastwide stock status is below B30, a floor, if applied, is superseded.*
- *B/B30 is conceptually similar to the ABC adjustment applied by sablefish managers under Tier3b when sablefish spawning biomass drops below B40 (B/B40).*

Performance metrics

- *Performance metrics allow the Council to evaluate alternatives relative to meeting the objectives of this action, attaching a definition to what it means to meet various objectives.*
- *A metric that measures the rate of change of PSC relative to the rate of change of total biomass and spawning biomass will allow the Council to appropriately evaluate if the various alternatives will meet the objective of indexing PSC limits to halibut abundance.*
- *Equitable access to the harvestable halibut biomass amongst user groups is an important measure of success in determining whether this action has met the objective of providing for a directed halibut fishery. This should include metrics looking at the average percentage of the TCEY available to the directed fishery in the Bering Sea, and probability that the percentage of the TCEY is greater than its historical share from 2002-2011.*

- *Performance metrics to further define the objective of protecting the halibut stock biomass particularly at low levels of abundance should include, measuring if the rate of the BS PSC reduction under the action is commensurate to rate of SSB decline and the probability of PSC limits and usage exceeding the TCEY.*

Changes and additions to the Operating Model

- *It is critically important that the operating model incorporate the IPHC's 30:20 rule. If the 30:20 rule is invoked, the IPHC severely reduces the harvest rate and TCEY, more rapidly reducing fishery allocations. When the halibut stock reaches B20, the directed fishery is shut down. Incorporation of the 30:20 rule will improve the model's output accuracy and be a more realistic portrayal of how the IPHC manages the directed fishery allocations.*
- *Extending model simulations beyond 20 years may allow the OM to exhibit more realistic fluctuations in abundance at higher and lower levels than currently modeled.*
- *Modeling very low levels of spawning biomass is another way to test if the alternatives are meeting the Council's objective relating to conservation and was a recommendation of the SSC. The alternatives as currently constructed, fail to meet this important goal. Inclusion of very low abundance levels may help the model capture the conservation aspect of this action.*
- *As highlighted in the IPHC's recent letter to the Council, the OM does not fully account for U26 mortality in the calculation of TCEY. U26 is a critical component of the halibut stock and clarity is needed in analysis about how it is and is not currently captured in the model.*
- *Allowing the ratio of PSC usage to limit to fluctuate in the OM may produce accurate impacts on both the directed fisheries and PSC users than keeping the proportion static, as is currently the case in the model. PSC users will likely use a higher proportion of the limit when PSC rates are reduced, particularly at lower levels of abundance.*
- *Running the model with PSC usage equal to limits, would be more accurate than the constant ratio of 70% for the trawl industry and 26% in the non-trawl. It will show improvement in the ability to fully utilize groundfish target species with lower limits.*

<u>Rationale in Opposition:</u>

- *A performance metric based on an area specific (BS) TCEY to measure the Council's Alternatives against the Council's objective of providing for a directed halibut fishery in Area 4CDE establishes an unreasonable metric outside the council's control. The IPHC establishes a coastwide TCEY based on a coastwide stock assessment and coastwide fishing mortality rate. From there, area specific TCEYs are established by the IPHC based on a management distribution scheme, which is not static from year to year and encompasses a wide variety of biological and economic factors (beyond the stock assessment and fishing mortality rate). As such, it is unclear how measuring the average percentage of the TCEY available to the Bering Sea directed fishery and the probability that the percentage of the TCEY available to the Bering Sea directed fishery is greater than 54% will be conducted in a standardized format, when annual area specific TCEYs have not and are not established in a consistent (non-standardized) manner by the IPHC. The value of the suggested performance metric for evaluating attainment of this specific Council objective is unclear when the suggested performance metric is based on a non-standardized target (annual area specific TCEY).*

- *The five objectives adopted by the Council do not have an established priority. Statements by some stakeholders that the current suite of Alternatives are not capturing the conservation objective of the Council implies that the conservation of halibut is the priority objective for the Council. Analysis of the current suite of Alternatives does show that a conservation benefit (inferred by halibut SSB levels) is not able to be significantly distinguished amongst the differing Alternatives, which is different from the analysis indicating that the conservation objective isn't being met. However, protecting SSB at low levels of abundance is not an identified priority objective and is only one of five competing objectives against which the current suite of Alternatives is being gauged. Establishing priorities amongst objectives entails a different conversation amongst the Council and stakeholders than the current conversation that involves evaluating established Alternatives against non-prioritized objectives for abundance-based management of halibut in the directed groundfish fisheries and it is important to distinguish between the two.*
- *The analysis indicated that the current range of alternatives do not have a conservation purpose because they do not impact the spawning stock biomass of halibut. Instead, the paper indicates that this action is more about allocation. The changes to the elements and alternatives, such as having the floor modified if halibut falls below B30 (which is unlikely to happen), do not change this conclusion, but do weaken some of the structures. The council already considered and rejected including the IPHC's B20/B30 rule as part of this action.*
- *Expectations that some % of TCEY should be available to 4CDE based on historical use needs to take into consideration the time period that the harvest policy was at times up to 1.5x of what it should have been (requiring the IPHC to do a retrospective adjustment). This is highlighted on page 185 and has been referenced repeatedly in past discussions at the AP. It is unreasonable to request to return to harvest levels that the IPHC later determined should never have been occurring.*

Motion 2

The AP requests the next document include the following information.

Discuss possible ways to determine a80 sector's predicted halibut usage under different caps/alts. Specifically look at data from last several years and 2019 in the a80 fisheries to evaluate the assumption that 70% of any cap will be used. Consider using different methods for estimating halibut usage other than that a fixed percent of a cap will used, for example a higher percentage at lower cap levels or a range.

Consider sensitivity of model's results to assumptions/model results concerning halibut usage by A80 sector. Reexamine the benefits to the directed halibut fishery under other assumptions/model results of bycatch use by a80 sector. Evaluate the impacts of groundfish TACs and variability in halibut bycatch rates on the assumptions related to cap usage.

Examine the effects of excluding U26 fish from model. Consider implications for biomass and directed halibut fishery. Examine sensitivity of results to assumptions concerning migration and natural mortality (including age/size dependent mortality).

Present alternatives in a manner that allows stakeholders to determine the cap levels for any level of the indices under consideration. The cap levels for any level of the applicable indices, should be separated for trawl/non-trawl and by sector – LLCP, A80, trawl limited access, etc.

Provide historical perspective on limits that would have been created by each alternative from 1990(?) forward based on level on the different indices – show separated by trawl/non-trawl and by sector including CDQ.

Create a calculator that can show how much quota is received by different user groups(IFQ vs individual CDQ groups) as a result of reduction of a single metric of halibut bycatch.

Evaluate the apparent lack of correlation between the trawl survey as an. abundance index and annual halibut bycatch rates in Amendment 80 and other trawl fisheries affected by ABM. This evaluation will help the Council and public understand the practicability of ABM alternatives for the trawl fisheries and whether the Council's intent to "provide flexibility to avoid unnecessarily constraining groundfish fisheries, especially when halibut abundance is high" is achieved using the trawl survey or other available indices for ABM. To help ensure this issue is given full consideration, the analysts should include a performance metric for how well any ABM index predicts bycatch rates in trawl fisheries and addresses the Council's intent to avoid unnecessarily constraining groundfish fisheries by this ABM action.

Motion 2 passed 12-8

<u>Rationale:</u>

- *The disconnect between the EBS trawl survey and the trawl fleet's encounters with halibut needs to be evaluated and was identified by the A80 sector as a potential major problem. For example, if the trawl index shows the abundance of halibut is going down, but the A80 encounters are going up, that may be a challenge for meeting the Council's goals, including flexibility to avoid unnecessarily constraining Groundfish. The request to evaluate this further should not be interpreted as an ask to eliminate the trawl index from the alternatives.*
- *The assumption that 70% of the cap will always be used under any level of abundance may not be realistic and could lead to problems with the model's utility; a wider range of assumptions should be considered. For example, if the cap goes down significantly it's very likely that 100% of the cap will be used which would in turn mean that less halibut is available to be transferred to directed users. The model assumption that 30% of the cap will be unused could lead to an expectation by directed halibut stakeholders that more halibut will be available to harvest.*
- *Staff explained that U26 halibut impacts were considered in the model, which contributed to the conclusion that the range of alternatives did not have an impact on spawning stock biomass, but this was a point of confusion for the AP and needs to be explained in more detail.*
- *Understanding how the model would have set historical halibut caps via the different indices would be useful for understanding which ones balance the Council's various objectives.*
- *The calculator concept will help show the tradeoffs between transferring halibut from one set of stakeholders to another, for example, the extent quota will go to BSAI communities vs IFQ holders.*

<u>Rationale in Opposition:</u>

- *Investigating the disconnect between the EBS trawl survey and fisheries data from the trawl fleet's encounters is concerning because it puts into question the survey's utility in an ABM framework, when the trawl and setline surveys were established early on in this action as providing solid indices for halibut abundance and spawning biomass. Surveys are used as a standardized measure*

for abundance in all groundfish fisheries, while fisheries data reflects efficiencies and effort directed at finding fish.

- *The proposed motion is narrowly focused, takes us too far afield from the direction that we should be heading and the motion excludes predictive halibut usage for other halibut PSC user groups. The motion only addresses the A80 sector's concerns.*