

SUPPLEMENT TO PRELIMINARY ANALYSIS OF GEAR SWITCHING ALTERNATIVES

This document assesses the Sablefish Management and Trawl Allocation Attainment Committee (SaMTAAC) recommended alternatives and the degree to which those alternatives meet the 29 percent gear switching maximum the Council adopted at its April 2021 meeting. It supplements the analysis of the SaMTAAC alternatives provided at the November 2020 meeting and reproduced in this briefing book.

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1. OVERVIEW

In April 2021, the Council adopted a maximum gear switching level of 29 percent to help inform development of a range of alternatives (ROA) related to gear switching in the IFQ trawl fishery. That ROA will likely be based on those proposed by the SaMTAAC ([Agenda Item C.5., Attachment 1](#), September 2021). This document is intended to supplement the analysis of the SaMTAAC alternatives ([Agenda Item C.5., Attachment 3](#), September 2021) and poses questions for the Council to consider in designing and selecting a ROA in relation to that 29 percent level.

In summary, this analysis shows that achieving the 29 percent gear switching maximum with certainty is unlikely for most of the alternatives as they currently stand (when applied to both legacy and non-legacy participants; Table 1). Over the long term though, some alternatives that appear to allow gear switching in excess of the 29 percent maximum (on a certainty basis) could be within that maximum if exemptions for legacy participants were to expire (as is currently included for Alternative 1, one option under Alternative 2, and Alternative 3). At the same time, on a projection basis, the 29 percent is achievable for most alternatives. Projections are based on current conditions, and those conditions are likely to fluctuate over the course of time.

The certainty evaluations in this report are based on the criteria of what is mathematically possible. It is highly unlikely that the mathematical possibilities will come to fruition. Ultimately, if an action alternative is adopted, the Council will need to assess the degree of risk it wants to incur with respect to exceeding the 29 percent criterion. That degree of risk might land somewhere on a spectrum between certainty and the likelihood of exceeding the criterion based on a projection approach. If the Council relies more on a projection approach, it may also want to consider how to build-in opportunities for adapting management as conditions change.

Table 1. Summary of whether the existing options within the SaMTAAC recommended alternatives achieve the 29 percent cap (with minor modifications at most) when applied to **both legacy and non-legacy** participants over the short term (i.e. prior to expiration of legacy opportunities).

Approach to Achieving the 29 percent cap	Alt 1 ^{a/ b/} (Gear Specific QP)		Alt 2 ^{d/} (Gear Switching Endorsement)	Alt 3 (Active Trawler Requirement)
	Opt Out	No Opt Out ^{c/}		
With Certainty	No	Yes	No	No
Based on Projection	Uncertain	Yes	Yes	Yes

a/ For Alternative 1, it is assumed that a conversion date is not selected as part of the alternative. With a conversion date, the 29 percent would not be met either with certainty or based on projections.

b/ Alternative 1 includes options where every QS account would receive a minimum of 30 percent of its QP as any-gear (70 percent trawl only) and 10 percent any-gear (90 percent trawl only). The results displayed in the table apply in either case.

c/ SaMTAAC recommends against combining the no opt-out option and issuing only 10 percent as any-gear QP.

d/ Alternative 2 includes options where legacy qualifiers would be able to gear switch at a level comparable to their historic average and at a level up to 4.5 percent. The results displayed in the table apply in either case.

Note: In this document, all references to quota shares (QS) and quota pounds (QP) are to northern sablefish QS and QP.

2. QUESTIONS FOR COUNCIL CONSIDERATION

1. Does the Council want the maximum possible gear switching amount to be 29 percent (certainty) or the expected maximum to be 29 percent (projected gear switching)?

Whether the Council wants to be certain the gear switching does not exceed 29 percent or wants estimates of expected levels of gear switching to be less than 29 percent might then guide selection of qualification requirements for legacy opportunities and the amount of gear switching allowed for individual entities. If a projection approach is taken, then the Council might want to include provisions that would allow for future adjustments (flexibility), in case projections are exceeded.

On the one hand, with the “certainty” based approach, the maximum amount of gear switching opportunities would not exceed 29 percent while the overall gear switching level projected might actually be well less than 29 percent. On the other hand, a projection-based approach might technically allow gear switching opportunity in amounts greater than 29 percent, even though the expected levels (projections) would be 29 percent or less. For each alternative, this document provides discussions on certainty and projections relative to the 29 percent maximum.

2. Does the 29 percent gear switching amount apply to all participants or only those that would receive legacy opportunities?

As with the degree of certainty, whether it is the Council’s intent for the 29 percent gear switching cap to apply only to those that are granted legacy opportunities or to all IFQ fishery participants will impact feasible qualifying requirements and the amount of gear switching opportunity that can be allowed for individual entities in both groups (legacy and non-legacy). For all of the alternatives (with the exception of one option in Alternative 2), the legacy opportunities expire over time. Therefore, the question of whether the 29 percent applies to both those that receive a legacy opportunity and the ongoing gear switching opportunities or applies just those with legacy opportunities is an issue of the amount of gear switching that will be allowed in the short term. Over the long-term, only the ongoing opportunities would be available for most options under the alternatives.

3. What is the long-term objective for a gear switching level?

For each alternative, there is the possibility that the legacy opportunities will expire. For those expiration options, regardless of whether the 29 percent gear switching maximum applies to all participants or just the legacy participants, only non-legacy gear switching opportunities would continue over the long term. Therefore, if the 29 percent is achieved over the short-term, what is the Council’s intent with respect to the amount of gear switching over the long-term? In sections below, for each alternative a summary table indicates the level of gear switching that might be expected over the short- and long-term.

3. ALTERNATIVE 1- GEAR SPECIFIC QP

Under Alternative 1, northern sablefish quota pounds (QPs) would be issued to each quota share (QS) account (QSA) as 70 percent trawl-only and 30 percent any-gear, or 90 percent and 10 percent, respectively. Limited entry permit owners with gear switching history may be able to opt out a QSA (either new or existing). All QP issued to opt-out accounts would be valid for any gear.

For opt-out accounts, the total amount of any-gear QP that would be issued is influenced by the ability of opt-out account holders to add QS to their accounts and the Adaptive Management Program (AMP) QP pass through. Additional QS could be added to any account that has been

opted out (up to the three percent control limit). Further, the amount of QP issued to opt-out accounts as any-gear QP would include the QP associated with the 10 percent of QS allocated to the AMP. Currently, the QP for AMP passes through to the QS owners. For each one percent of QS a person owns, they receive one percent of the QP plus an additional 0.11¹ percentage points of QP, from the AMP pass through. For an account at the three percent maximum, this additional AMP related QP would equal 1/3 percentage point more per account for a maximum of 3.33 percent QP per account. Thus, for opt-out accounts, the maximum gear switching (any-gear) QP that could be issued would be the number of opt-out qualifiers times 3.33 percent.

While an opt-out QS account could not have more than 3 percent QS (3.33 percent any-gear QP), gear switching vessels would still be able to use any-gear QP up to the 4.5 percent annual vessel limit (gathering any-gear QP from opt-out and/or other QS accounts receiving any-gear QP).

3.1. Certainty

This section assesses the degree to which there is certainty that Alternative 1 would meet the 29 percent gear-switching maximum and the types of changes that might achieve certainty.

3.1.1. Gear Specific QP Option 1 (70 percent trawl only/30 percent any gear)

Under Gear Specific QP Option 1, the opt-out provision may or may not be included within the final selection.

3.1.1.1. No Opt Out

With no opt out provided, this alternative can be certain to not exceed the 29 percent cap by adjusting the 70 percent trawl only/30 percent any-gear split to 71 percent/29 percent, respectively.

3.1.1.2. Opt Out

Under Gear Specific QP Option 1, certainty of meeting the 29 percent maximum for the IFQ fishery would require that there be no opt-out accounts and that the 30 percent any-gear QP amount be reduced to 29 percent.

However, if the Council wanted to grant up to 29 percent any-gear QP to those that qualify for a legacy opportunity (i.e. limit the legacy QS accounts to a maximum of 29 percent any-gear QP) in the short term, an opt-out could be permitted. In that case, a maximum of eight QSAs could be opted out (8 QSAs x 3 percent QS limit = 24 percent QS, or 26.7 percent of the allocation after adding the AMP QP). Assuming that eight accounts each max out at the 3 percent northern sablefish QS control limit, the remainder of the accounts would have 66 percentage points of the QS (out of the 90 percent issued to all QS accounts) or 73 percent of all the QP. Under the 70 percent trawl only/30 percent any gear proportions, this would result in 29 percent of that 73 percent (almost 21.3 percent of the allocation) issued as any-gear QP. Thus, over the short-term, the maximum possible gear switching would be 48 percent (26.7 percent from legacy accounts plus 21.3 percent from non-legacy account). While the any-gear QP issued to legacy accounts would be limited to 26.7 percent, the owners of those accounts would still be able to acquire additional any-gear QP from non-opt-out accounts.

¹ Because 100 percent is 111 percent of the 90 percent of QS allocated to initial recipients, such that a QSA receiving 1 percent of the QS receives 1.11 percent of the total QP.

Over time, the opt-out accounts would expire, leading to an overall maximum of any-gear QPs (and potential gear switching) at 30 percent. In order to have the long term maximum be 29 percent, the proportions would have to change under this scenario as well to 71 percent trawl only, 29 percent any gear.

3.1.2. Gear Specific QP Option 2 (90 percent trawl only/10 percent any gear)

3.1.2.1. No Opt Out

Under the alternative structure as recommended by SaMTAAC, Gear Specific QP Option 2 must have an opt-out option included. If despite the recommendation an opt-out is not provided, the 10 percent of QP allocated as any-gear would limit gear switching to well below the Council’s 29 percent maximum.

3.1.2.2. Opt Out

As under Gear Specific QP Option 1, if the Council wanted to apply the 29 percent cap only to QP issued to opt-out accounts it could allow for up to eight QSA to opt out if it wanted the 29 percent cap to apply only to QP issued to opt-out accounts. After taking into account AMP, this would result in 27 percent of the QP being issued as any-gear QP to opt-out accounts with the remaining 73 percent of the QP going to non-opt-out accounts (see Section 3.1.1.2 for a description of how these values were determined). Thus, the remainder of the accounts would be allocated 7.3 percent any-gear QPs resulting in a total allocation to all participants of 34 percent any gear QPs (27 percent to legacy participant opt-out accounts plus 7.3 percent to non-legacy QSAs). Legacy participants would also be able to acquire any-gear QP issued to non-opt-out accounts—effectively providing them opportunity in excess of 27 percent. Again, over time, those opt out accounts would expire, resulting in a total of 10 percent any-gear QPs.

In order to be certain of keeping the maximum amount of gear switching for all participants within 29 percent in the short term, the maximum number of QSAs that could be opted out and receive all QPs as any-gear would be six (6 QSAs x 3 percent QS limit=18 percent QS or 20 percent of the QP after taking into account AMP). Gear Specific QP Option 2 would issue 90 percent of the QP as trawl-only QP and 10 percent as any-gear QP, except to those accounts that are opted out by owners of qualified permits. Thus, the remaining 80 percent of the QP would be issued as 90 percent trawl-only and 10 percent any-gear, which would equate to eight percentage points of any-gear QP in non-opt-out accounts. The total maximum any gear QP for all participants in the short term would therefore be 28 percent (20 percent from opt-out accounts plus 8 percent from non-opt-out accounts). As those six opt-out accounts expire, the overall maximum amount of potential gear switching would be 10 percent (long term). The current number of qualifiers under the proposed opt-out qualification options is 26 to 38 as shown in [Table 12](#) of Agenda Item C.5., Attachment 3, September 2021. This implies that substantially more constraining qualifying requirements would be needed to achieve certainty of not exceeding 29 percent for all participants over the short term.

3.2. Projection

This section assesses the ability of this alternative to meet the 29 percent maximum based on projections. There are two main sources of uncertainty in projecting potential gear switching under Alternative 1: 1) the likelihood of participants being able to “sweep up” any gear QPs across

several QSAs; and 2) if an opt-out opportunity is provided, which QSA would qualified permit owners select to opt out and how much quota exists or could be added to that account and used for gear switching.

3.2.1. Gear Specific QP Option 1 (70 percent trawl only/30 percent any gear)

3.2.1.1. No Opt Out

Without an opt-out, it is likely that the actual gear switching amount will be lower than the 29 percent maximum. In part, this is because of the challenge of sweeping up any-gear QP from the accounts across which such QP would be spread. As discussed in Agenda Item C.5., Attachment 3, September 2021 ([page 13](#)), based on 2020 ownership data, one vessel acquiring all of the any-gear QPs from the three QSA with the most QS would be able to accumulate enough any-gear QPs to cover the average gear switched vessel landings in 2018-2019. If those QSAs were not willing to trade though, the vessel would need to accumulate any-gear QP from even more QSAs. Assuming that one vessel acquired QPs from the QSAs with the most sablefish QS, a second vessel would have to accumulate QPs from even more accounts to reach the same level of gear switching, and so forth with each additional vessel. The costs associated with finding QSAs willing to sell or trade any-gear QP would increase with the number of QSA owners that have to be contacted. Of course, for gear switching participants to sweep up all the any-gear QP, there would have to be transactions involving every QSA (except those owned by gear-switching vessels; total of 166 accounts as of August 11, 2021). All of these factors would likely contribute to gear switching levels substantially below 29 percent.

3.2.1.2. Opt Out

With an opt out, qualified permits owners would be able to designate any QSA to receive all its sablefish north QP as any gear. Some qualifying permit owners may own a QSA and would opt out that QSA. Other qualifying permit owners may establish an agreement with other QSA owners to opt-out their QSA. Alternatively, permit owners without a QSA may open a new QSA. Whether the QSA is existing or new, QS could be added to that account in the future and any-gear QP would be issued for all QS in the account. Therefore, predicting which QSA and how much quota would be opted out is highly uncertain.

Utilizing end of 2019 data, the following analysis attempts to assess the QSAs that might be opted out and the amount of QS in those accounts (as of 2019) under each qualifying requirement option.

For this analysis, a series of classification rules were used to determine which QSA a permit might opt out. Those rules were:

1. *Single owner or ownership group owns one potentially qualifying permit and one QSA.* Assume the entity will opt-out the QSA that it owns.
2. *Single owner or ownership group owns one potentially qualifying permit and multiple QSAs.* Assume that all sablefish QS owned by the entity would be moved into one QSA which would then be opted out (up to a maximum of 3 percent)—so the total sablefish north quota owned by the entity would be opted out.
3. *Single owner or ownership group owns multiple potentially qualifying permits and multiple QSAs.* In this case, those QSAs with the strongest linkage (i.e. same individual(s) or business(es) within the ownership group owns the permit and QSA) were assumed to be opted out.

Based on these criteria, there were 29 permits where a likely opt-out QSA could be identified.

For the remaining nine potentially qualifying permits that could receive an opt out under at least one qualifying criterion, there was not a strong enough connection to select a QSA that the permit owner might be likely to opt out. These included instances of permit owners not owning a QSA and not having a strong tie to another QSA (as might be evidenced by QP transfers), and instances where an entity owned multiple potentially qualifying permits but only one QSA and there were no ownership or QP transfer ties to another QSA.

Even if a strong connection could be made between a QSA and a permit, it is important for the Council to consider the uncertainties associated with this analysis. For example, the following list describes situations where there is a high level of uncertainty around which QSA would be opted out and how much quota may be put into that QSA.

- Number of occurrences where an entity owns multiple potential qualifying permits but only one QSA: 5 entities that own a total of 12 potentially qualifying permits
- Number of potentially qualify permits not associated with a QSA due to lack of IFQ activity in recent years (including QSA ownership): 1 permit
- Number of potentially qualify permits owned by quota fund groups: 4 permits

Based on the above rules, the following table summarizes the total amount of northern sablefish QS that is projected to be opted out, the corresponding percentage of total QPs issued as any-gear to the opt-out accounts (including AMP QP), and the amount of any-gear QPs that would be allocated to the remaining accounts (expressed as a percentage). A range of projections are included in the table below to account for those nine potentially qualifying permits where a likely opt-out QSA could not be identified. The lower end of the range assigned these permits zero percent QSA (which might apply if the permit owner opened and opted out a new QSA) and the upper end projection assumes that these permits would opt out a QSA with the average amount of QS from the other QSAs that were identified as potential opt-out QSAs.² The upper bound might be more representative if the permit owner was able to make an arrangement with a QSA owner to opt out their account and have access to any-gear QPs from that account. If those nine permit owners make arrangements with QSA owners that have more than the average or if the identified QSAs add quota to the 2019 amounts, that upper bound might even be exceeded.

While the total any-gear QPs would be in excess of the 29 percent threshold for all four qualification sub-options, it is possible that the actual amount of gear switching could be within 29 percent. Outside of the uncertainty of how much QS would be opted out—particularly given the opportunity to add additional QS to an account in the future, it is unclear how much of those opt-out QPs would actually be used for gear switching. For example, while the number of qualifying permits runs from 26 to 38, from 2016-2019, the number of gear switching participants has recently stabilized at an annual participation level of 16 vessels and permits. Permits that have not been recently used for gear switching but would qualify to opt out a QSA might not utilize those QPs for gear switching but could rather sell those QPs to gear switching vessels or use them for trawling activity. Therefore, the actual amount of opt-out QSA QPs used for gear switching may be less than the total opt-out QP. Additionally, there is uncertainty associated with the amount of any-gear QPs from non-opt out QSAs that would be used for gear switching, given the number

² The average amount of QS for identified opt-out QSAs was 1.03 percent.

of transfers that would likely be required to accumulate the any-gear QP spread out over non-opt-out QSAs. For example, in 2019, there were 130 QSAs with sablefish north present. Under Opt-out Qualification Sub-option A, even if each of the 38 permits opted out an established QSA with quota at the average amount (43.6 percent for all 38 permits), that would mean the remaining 16.9 percent of other any-gear QPs (issued to non-opt-out accounts) would be spread across 92 other QSAs.

Table 2. Projected ranges^{a/} of total QPs issued as “any gear” under Alternative 1, Gear Specific QP Option 1 (70% trawl only, 30% any gear) by Opt-Out Qualification Sub-Options.

Opt-Out Qualification Sub-Option	Number of Permits	QS Owned by Projected Opt-Out QSAs at End of 2019	Percent of QPs Issued as Any-Gear to Opt Out QSAs ^{b/}	Percent of QPs Issued as Any-Gear to Other QSAs	Total Percent of QPs issued as Any-Gear
A	38	29.9-39.2	33.3-43.6	16.9-20.0	53.3-60.5
B	33	26.9-35.1	29.9-39.0	18.3-21.0	50.9-57.3
C	26	17.3-24.5	19.3-27.3	21.8-24.2	43.5-49.1
D	34	28.6-35.8	31.8-39.8	18.1-20.5	52.2-57.9

a/ The ranges are established based on varying the assumed QS for those potentially qualifying permits without an identified QSA. The low end of ranges represents the “zero QS” scenario for those permits and the high end the “average QS” scenario (described above).

b/ This column is the total QPs issued as any-gear to the opt-out accounts—including amounts issued for QSA shown in the column to the left and Adaptive Management Program QP—AMP QP.

Considering different hypothetical levels of projected utilization of any-gear QPs received by non-opt out QSAs may provide some insight for the Council in determining how many QSAs they may want to opt out. If it was estimated that 10 percentage points of any-gear QPs from non-opt out accounts would be utilized for gear switching, then at least 11 permits could be qualified and gear switching levels would be projected to remain within 29 percent (based on the QSAs that qualifiers are expected to opt-out, as identified for the above analysis but not taking into account the opportunity to add QS to those accounts). If it is estimated that 20 percent of the any-gear QPs from non-opt-out accounts would be utilized for gear switching, then at least four permits could be qualified to opt-out. These numbers of permits are lower bounds because they assume that the QSAs owned by legacy permit owners with the most QS as of the end of 2019 would be opted out. It’s possible that the owners of permits that qualify may not be the owners of QSAs that have the most QS—or own a QSA at all. If actual qualifiers owned or opted out QSAs with lesser amounts of QS (as might be expected), then larger numbers of opt-out accounts might be allowable while still meeting the 29 percent criterion, but again not as many as qualifying in Table 2. Those projections might change if additional QS were added to the opt-out accounts.

3.2.2. Gear Specific QP Option 2 (90 percent trawl only/10 percent any gear)

3.2.2.1. No Opt Out

If the Council chose to include this option, which was not a part of the SaMTAAC’s recommendation, then it is likely that the overall amount of gear switching would be less than 10 percent as it would be highly unlikely that gear switching vessels could accumulate all 10 percent of any gear QPs across all QSAs. As noted in Agenda Item C.5., Attachment 3 ([page 13](#)), without an opt-out, it would take transfers from a minimum of nine QSAs (as of February 2020) for a single gear switcher to accumulate enough any-gear QPs to cover the average landings of a gear switching

vessel in 2018-2019. Similar to the situation described in Section 3.2.1.1, vessels would likely need more trades than the minimum. Overall, gear switching would likely be less than 10 percent.

3.2.2.2. Opt Out

Using the same process for identifying potential opt-out QSAs described in Section 3.2.1.2, Table 3 provides the same set of statistics as Table 2 except under Gear Specific QP Option 2. The ranges for the total amount of any gear QPs are projected to be in excess of the 29 percent threshold for most options. Yet, it is likely that these would not be fully utilized for gear switching—but the degree to which is uncertain, given the same factors described above. The likelihood of vessels gathering a large amount of QPs from the non-opt out QSAs is probably less than that described under Gear Specific Option 1 as the any-gear QP amount in those accounts is three times more than under this option. For example, under Opt-out Qualification Sub-option A, the 92 other QSA would hold 5.6 percent of the remaining any-gear QPs (lower bound) compared to 16.9 percent for the same sub-option under Gear Specific Option 1.

Table 3. Projected total of any-gear QPs that would be issued under Alternative 1, Gear Specific QP Option 2 (90 percent trawl/10 percent any-gear) by Opt-Out Qualification Sub-Option.

Opt-Out Qualification Sub-Option	Number of Permits	QS Owned by Projected Opt-Out QSAs at End of 2019	Percent of QPs issued as Any-Gear from Opt Out QSA ^{a/}	Percent of QPs issued as Any-Gear in other QSA	Total Percent of QPs issued as Any-Gear
A	38	29.9-39.2	33.3-43.6	5.6-6.7	39.9-49.2
B	33	26.9-35.1	29.9-39.0	6.1-7.0	36.9-45.1
C	26	17.3-24.5	19.3-27.3	7.3-8.1	27.3-34.5
D	34	28.6-35.8	31.8-39.8	6.0-6.8	38.6-45.8

a/ This column is the total QPs issued as any-gear to the opt-out accounts—including amounts issued for QSA shown in the column to the left and Adaptive Management Program QP—AMP QP.

3.3. Conversion Date

The conversion date provision of Alternative 1 would not provide certainty that the amount of gear switching would remain within 29 percent, as all trawl-only QPs would convert to any-gear QPs at a designated time (either mid-year or post-season). For mid-year conversion date Options 1 and 2 (August 1 and September 1, respectively), this would likely result in a situation similar to No Action. As shown in [Table 10](#) of Agenda Item C.5., Attachment 3, September 2021, an average of 75 percent of gear-switched catch occurs after August 1 and 65 percent after September 1. This suggests that with a conversion date there would likely be minimal impacts to the overall level of gear switching, with a potential shift in effort to months after the conversion date, depending on the ability of vessels to accumulate any-gear QPs prior to that date.

For the post-season conversion date under Option 3, conversion could occur either during post-season trading or when carryover is issued (to be determined). If the conversion occurred during post-season trading, then the amount of additional gear switching allowed by the option would be based on the deficit carryover by gear switchers. In the past, total northern sablefish deficit carryovers by all participants averaged ~9,685 QPs from 2011-2019 ([Table 11](#) of Agenda Item C.5., Attachment 3, September 2021). If the conversion occurred after carryover, surplus carryover would expand the amount of any-gear QP available in the following year. In the past, in years in which it was issued, total northern sablefish surplus carryover by all participants averaged ~200,000 pounds per year. As an example, 200,000 pounds would be about 3 percent of

the 2020 trawl allocation. However, northern sablefish QP carryover is currently not issued under the Council's default harvest control rule.

If Option 3 were adopted, for a set of Alternative 1 options that would otherwise be below 29 percent, it is possible that the threshold would be exceeded. The amounts of additional gear switching that might be allowed are difficult to project at this point as it would be dependent on the gear specific QP option (70/30 or 90/10), number of opt-out accounts (if allowed), along with vessel gear-switching deficits and unused QP carryover in a particular year. While past levels of deficit and surplus carryover might provide some indication of expected levels, the provisions themselves would change the structure of fishing incentives and could lead to increased gear-switching deficits – incurred in anticipation that conversion would occur during post-season trading. If the Council choose to include option 3 within the ROA, further details would be brought back in the analysis.

3.4. Summary of Alternative 1 Gear Switching Levels

The following table summarizes for Alternative 1 expectations for whether the alternative would be within the 29 percent maximum and, where it would not be within that maximum, the types of adjustments that could be made to bring it within 29 percent. Whether the alternative is expected to be within the maximum also depends on a number of factors to be determined by the Council: 1) qualification options selected for legacy participants, 2) the desired level of certainty of being within the maximum; 3) whether it is intended to apply to all gear switching activity or just gear switching by legacy participants, and 4) whether the maximum is intended to apply for the short- or long-term.

Table 4. Summary evaluation of meeting the 29 percent gear switching maximum criterion under Alternative 1 (assuming no mid-year conversion date).^{a/}

Opt Out Provision and Short-/Long-term	Gear Specific QP Option			
	Gear Specific QP Option 1 (70% trawl only/30% any gear)		Gear Specific QP Option 2 (90% trawl only/10% any gear)	
	Certainty	Projection	Certainty	Projection
No Opt Out (i.e. No Legacy Opportunities): Short- and Long-term	Percentages would need to change to 71% trawl only/29% any gear	Likely less than 29% without changes.	Meets 29% max SaMTAAC Recommends not Combining the 90/10 option with no opt-out	Meets 29% max SaMTAAC Recommends not Combining the 90/10 option with no opt-out
Opt Out: Short-term	<p><u>Legacy and All Others:</u> No opt out could be allowed; Percentages would need to change to 71% trawl only/29% any gear.</p> <p><u>Legacy Only:</u> Could opt out up to 8 QSA to legacy participants and meet 29% for the opt-out accounts.</p>	<p><u>Legacy and All Others:</u> Uncertain. Total any-gear QP issued between 40 and 60 percent depending on Options (Table 2).</p> <p><u>Legacy Only:</u> Uncertain. Projected opt-out QP ranges from 19 to 44 (Table 2).</p>	<p><u>Legacy and All Others:</u> Max of 6 QSA could opt out while meeting the 29 percent max.</p> <p><u>Legacy Only:</u> Could opt out up to 8 QSA to legacy participants and meet 29% for the opt-out accounts.</p>	<p><u>Legacy and All Others:</u> Uncertain. Total any-gear QP issued between 27 and 50 percent depending on Options (Table 3). The 10 percent any-gear QP issued to non-opt-out accounts may be difficult to sweep up because they are dispersed in small quantities.</p> <p><u>Legacy Only:</u> Projected opt-out QP ranges from 19 to 44 (Table 3).</p>
	For both “Legacy and All Others” and “Legacy Only” utilization of any-gear QP for gear switching dependent on factors outlined in Section 3.2.1.2.			
	Projections provided here for “legacy only” do not take into account the possibility that legacy opportunity qualifiers (opt-out), as well as other historic gear switchers, may acquire any-gear QP from non-opt-out accounts, thereby expanding their total gear switching to levels higher than the amount of QS in opt-out accounts. Additionally, opt-out accounts can acquire additional QS for which any-gear QP would be issued.			
Opt Out: Long-term	Percentages would need to change to 71% trawl only/29% any gear	Likely less than 29% without changes.	10%	Likely less than 10%

a/ As noted in Section 3.2, if there is a mid-year conversion of trawl-only QP to any-gear QP, the 29 percent criterion would likely not be met under any combination of qualifying and opt-out options.

4. ALTERNATIVE 2 – GEAR SWITCHING ENDORSEMENT

Under Alternative 2, permits that meet historical gear switching participation levels would qualify for a gear switching endorsement. Endorsements provide permit holders a higher gear switching level while all remaining trawl permits would be given a 0.5 percent gear switching limit. Endorsements could either expire with changes in permit ownership or would not expire.

4.1. Certainty

The current iteration of Alternative 2 (including qualification requirements and endorsement limits) would not guarantee that gear switching levels would remain below 29 percent, regardless of whether or not exemptions expire. This is due to the 0.5 percent gear switching allowance that would be granted to all non-endorsed permits. Even if there were no exemptions or if exemptions

were to expire, the long-term potential gear switching maximum, while highly unlikely, would be 82 percent (164 trawl endorsed permits * 0.5 percent = 82 percent potential gear switching). Therefore, to ensure that the gear switching amount in the short- and long-term remains within the proposed cap of 29 percent, the current alternative would have to be modified. Some approaches for modification are described in this section.

4.1.1. Endorsement Limit Option 1

Under Limit Option 1, each permit that qualifies for a gear switching endorsement (legacy opportunity) would be assigned a gear switching limit of that permit’s average percent of the sablefish north allocation harvested between 2011 and the control date (September 15, 2017) during active fishing years.³ Based on the current range of qualification criteria, this would result in between 10 and 15 qualifiers with a total combined percent limit ranging from 24.5 to 29.6 percent (Table 5). Therefore, if the 29 percent limit is intended to apply only to the legacy participants, then the 29 percent maximum would be met with certainty under most options (slightly exceeded under Qualification Option 1).

Table 5. Alternative 2 Qualified Permits and Associated Limits under Endorsement Limit Option 1

Qualification Option	Qualified Permits	Total Percent Limit
Option 1	15	29.6%
Option 1 w/ recent participation	14	28.0%
Option 2	11	26.0%
Option 2 w/recent participation	10	24.5%
Option 3	13	28.3%

However, if the 29 percent limit is intended to apply to all gear switching, in order to have certainty that the 29 percent limit is not exceeded, the non-endorsement limit of 0.5 percent would need to be removed or would have to be set at a very negligible percentage. Under the current qualifier requirements for endorsements, there would be between 149-154 non-qualifying trawl permits⁴ that would each receive a 0.5 percent limit under the proposed alternative, resulting in the mathematical possibility that 74.5 to 77 percent of the allocation could be gear switched by non-endorsed permits alone. The opportunity for at least this amount of gear switching would remain over the long-term, even if the gear switching endorsements expire. In order to have certainty that the maximum amount of gear switching would be 29 percent over the long-term (after gear switching endorsements expire), the non-endorsement limit would have to be reduced to 0.177 percent.

4.1.2. Endorsement Limit Option 2

Under Limit Option 2, permits receiving gear switching endorsements would be allowed to gear switch up to an annual vessel limit for sablefish north (4.5 percent). In contrast to Limit Option 1, with Limit Option 2, none of the current qualification requirements would provide certainty that

³ Years in which the vessel was not active (zero years) are omitted from the average.

⁴ This count excludes the ten trawl endorsed permits with CP endorsements.

29 percent would not be exceeded by vessels with endorsed permits (legacy opportunities). The maximum allowable permits that could be granted endorsements and stay within the 29 percent limit would be six (6 permits x 4.5% limit = 27 percent). Under this modification, if the 29 percent limit is intended to apply to all gear switching then the allowance for non-endorsed permits would also have to be removed (or could be provided at a very low level: 0.01 percent, or 700 pounds based on the 2020 trawl allocation). The amount provided for nonqualifying could be increased by 0.03 percent (1,600 lbs based on the 2020 trawl allocation) for each decrease in the number of qualifying permits—i.e. reducing the number of qualifiers from six to five increases the amount that could be made available to nonqualifying permits by 0.03 percent (total of 2,300 pounds based on 2020 trawl allocation).

As with Limit Option 1, if every non-endorsed permit is provided a 0.5 percent gear switching limit, the level of gear switching possible would be far above 29 percent in the short- and long-term, even before including any gear switching endorsed permits.

4.2. Projections

As with the “certainty” analysis, the projection approach provided here accounts for both harvesters receiving a gear switching endorsement and the opportunity provided for those without such an endorsement.

Each projection scenario takes into account potential gear switching qualifiers and non-qualifiers—as was the case for the certainty analysis. For those permits granted a gear switching endorsement, there are two Alternative 2 option projection scenarios to assess: Endorsement Limit Option 1 and Endorsement Limit Option 2. For each scenario, the projections for qualifiers were conducted in a manner consistent with the specific limit option, as described in the following sections. The projections for non-qualifiers were based on recent year participation and landings (2016-2019) for those permits that would not receive an endorsement. Specifically, the projection assumes that only non-qualifying permits with at least one landing of gear switched sablefish in 2016-2019 would potentially participate using a non-endorsed permit (“Non-Endorsed Permits” column in the following tables). Permits that met these criteria were estimated to take their average percent utilization from 2016-2019 (including zero years), except for those that were in excess of the 0.5 percent. In those cases, those permits were restricted to the 0.5 percent limit.

4.2.1. Endorsement Limit Option 1

Depending on the year, fishing opportunities, etc., each endorsed permit may or may not utilize its full permit limit. Table 5 above shows the maximum amount of potential gear switching for qualified permits as a group under Endorsement Limit Option 1. The following table shows the projected utilization of the qualified permits by each qualification option and by quantile. The quantile estimates were developed using an approach similar to that used in April 2021 to develop simulations that projected gear switching impacts for No Action (see Section 3.1 of [Agenda Item F.4., Attachment 1, April 2021](#) for method description).⁵

⁵ In this analyses, if the percent from a given year was in excess of the permit’s proposed limit under Endorsement Limit Option 1, rather than the permit’s actual utilization percentage being selected in the simulation, it would be reduced to that limit, for purposes of producing this estimate.

First, considering only the endorsed permits (legacy participants), ninety-five percent of simulations result in the combined utilization of the endorsed permits across all qualification options being just less than 24 percent (second column from right in Table 6). Using the following table, the Council can select a level of risk (column) and from that level determine the gear switching projected to result from each qualifying option. It is important to consider that these projections are based on historical data and therefore may not be representative of future conditions.

Table 6. Random sampling projections for qualified permits under Endorsement Limit Option 1 based on percent utilization, 2011-2019.

Endorsement Qualification Option	Quantile						
	0.01	0.05	0.1	0.5	0.9	0.95	0.9999
Option 1	11.3%	13.1%	14.4%	18.6%	22.6%	23.6%	26.8%
Option 1 w/ recent participation	9.7%	12.7%	14.0%	18.1%	21.9%	23.1%	26.0%
Option 2	10.1%	12.7%	14.0%	18.1%	21.8%	22.7%	25.7%
Option 2 w/ recent participation	8.0%	11.5%	12.8%	16.9%	20.8%	21.7%	23.9%
Option 3	10.0%	12.9%	14.0%	18.6%	22.7%	23.6%	26.5%

Projections for vessels with endorsed permits and non-endorsed permits are provided in Table 7. The median value from the Table 6 projections are utilized to estimate gear switching for endorsed permits (i.e. 50th percentile, risk neutral). Assuming that these projections are a good representation of future participation, in the long term, if the Council chooses the endorsement expiration option, it is likely that overall amounts of gear switching would decline from those values in the far right column closer to the values in the second column from the right (i.e. “Non-Endorsed Percent”). However, if allocations are at a level high enough level for the 0.5 percent limit⁶ to attract participation, then more permits may take advantage of that allowance. This would likely result in long-term gear switching levels that more than the projected non-endorsed permit amounts. On the other hand, if the non-endorsed limit, allocation, market, and other fishery conditions combined were not conducive to gear switching, then the overall amount of gear switching for non-endorsed permits would likely be lower than indicated. In the long-term, if the Council chooses the non-expiration option for endorsements, these conditions will also affect long-term participation by vessels with endorsed permits, influencing gear switching levels to be above or below the projections provided.

⁶ 0.5 percent would be the equivalent of 29,000 pounds in 2020

Table 7. Alternative 2 Projections for Endorsed Permits under Endorsement Limit Option 1 and Non-Endorsed Permits

Endorsement Qualification Option	Endorsed		Non-Endorsed		Total Projected Gear Switching Level
	Permits	Percent	Permits	Percent	
Option 1	15	18.6%	11	4.2%	22.8%
Option 1 w/ recent participation	14	18.1%	11	4.2%	22.3%
Option 2	11	18.1%	15	5.4%	23.5%
Option 2 w/recent participation	10	16.9%	15	5.4%	22.3%
Option 3	13	18.6%	12	4.1%	22.7%

4.2.2. Endorsement Limit Option 2

For Limit Option 2, permits would be able to gear switch a full annual vessel limit of 4.5 percent. Utilizing the same approach used in April 2021 to project gear switching impacts for No Action (see Section 3.1 of [Agenda Item F.4., Attachment 1, April 2021](#) for method description), the following table shows the projected utilization of the permits qualified by each qualification option by quantile. Ninety-five percent of simulations result in the combined take of the endorsed permits being just above or less than 29 percent. If the Council is intending for the 29 percent maximum to apply only to those with a legacy opportunity, these current qualification options may be sufficient. However, this again is based on historical data and may not be representative of future conditions. For example, the number of permits fishing at close to 4.5 percent has generally been low, but recently increased. There were only 15 total occurrences from seven permits taking more than four percent between 2011-2018 ([Figure 5](#) of Agenda Item C.5., Attachment 3, September 2021). However, in 2019 alone, there were five permits with over four percent utilization, suggesting that there could be increased odds of participants taking a higher percentage of an annual vessel limit.

Table 8. Random sampling projections for qualified permits under Endorsement Limit Option 2 based on percent utilization, 2011-2019.

Option	Quantile						
	0.01	0.05	0.1	0.5	0.9	0.95	0.9999
Option 1	12.9%	15.4%	16.6%	22.2%	27.8%	29.2%	37.1%
Option 1 w/recent participation	11.5%	14.9%	16.4%	21.6%	27.1%	28.8%	34.0%
Option 2	12.0%	14.8%	16.3%	21.5%	27.0%	28.5%	33.6%
Option 2 w/recent participation	10.0%	13.6%	14.9%	20.1%	25.3%	26.9%	31.7%
Option 3	11.3%	14.9%	16.5%	22.3%	28.0%	29.5%	37.8%

If the 29 percent is intended to also apply to vessels without a gear-switching endorsement, depending on the Council’s level of risk tolerance, then more restrictive qualification requirements may be needed. Table 9 provides the same estimates as Table 7 above, except for Endorsement Limit Option 2. Estimates for endorsed permits are again based on the median projection from the random sampling analysis (Table 8). Based on these results, the total gear switching under any of the qualifying options would be less than the 29 percent for both endorsed permits and non-endorsed permits. Over time, if endorsements were to expire, the total gear switching amount would likely decline as all vessels would only be allowed to gear switch up to 0.5 percent of the allocation. The same considerations of limits, markets, fishing opportunities, etc. described above under Endorsement Limit Option 1 and the impact to both endorsed and non-endorsed permit utilization also apply here.

Table 9. Alternative 2 Projections for Endorsed Permits under Endorsement Limit Option 2 and Non-Endorsed Permits

Option	Endorsed		Non-Endorsed		Total
	Permits	Percent	Permits	Percent	
Option 1	15	22.2%	11	4.2%	26.4%
Option 1 w/ recent participation	14	21.6%	11	4.2%	25.8%
Option 2	11	21.5%	15	5.4%	26.9%
Option 2 w/recent participation	10	20.1%	15	5.4%	25.5%
Option 3	13	22.3%	12	4.1%	26.4%

4.3. Summary of Alternative 2 Gear Switching Levels

The following table summarizes for Alternative 2 expectations for whether the alternative would be within the 29 percent maximum and, where it would not be within that maximum, some of the types of adjustments that could be made to bring it within 29 percent. Whether the alternative is expected to be within the maximum also depends on a number of factors to be determined by the Council: 1) options selected, 2) the desired level of certainty of being within the maximum; 3) whether the maximum is intended to apply to all gear switching activity or just gear switching by legacy participants; and 4) whether the maximum is intended to apply for the short- or long-term.

Table 10. Summary evaluation of meeting the 29 percent gear switching maximum criterion under Alternative 2.

Short-/Long-term; Endorsement Expiration	Endorsement Limit Option 1		Endorsement Limit Option 2	
	Certainty	Projection	Certainty	Projection
Short term	<p><u>Legacy and All Others:</u> Adjust to tradeoff opportunity between the two groups. All but one qualification option within 29% for legacy participants alone (Table 5). Operating under the 0.5 percent limit, non-legacy participants alone could far exceed the 29%.^{a/}</p> <p><u>Legacy Only:</u> All but one qualification option within 29% (Table 5).</p>	Likely within 29% for both legacy and all others combined as well legacy only (Table 7)	<p><u>Legacy and All Others:</u> Adjust to tradeoff opportunity between the two groups (potentially eliminating opportunity for one group to provide meaningful opportunity for the other).^{a/}</p> <p><u>Legacy Only:</u> Reduce number of qualifiers to 6 or less to stay within 29%.</p>	Likely within 29% for both legacy and all others combined as well legacy only (Table 9)
<p>Long term (after endorsement expiration, if chosen)</p> <p><i>If gear switching endorsements do not expire, short- and long-term would be the same.</i></p>	<p><u>Legacy and All Others:</u> Operating under the 0.5% limit, non-legacy participants alone could far exceed the 29%.</p> <p><u>Legacy Only:</u> Zero percent in long term.</p>	<p><u>Legacy and All Others:</u> Likely less than 29% for non-legacy only.</p> <p><u>Legacy Only:</u> Zero percent in long term.</p>	<p><u>Legacy and All Others:</u> Operating under the 0.5% limit, non-legacy participants alone could far exceed the 29%..</p> <p><u>Legacy Only:</u> Zero percent in long term</p>	<p><u>Legacy and All Others:</u> Likely less than 29% for non-legacy only.</p> <p><u>Legacy Only:</u> Zero percent in long term.</p>

a/ To be certain of staying within 29 percent and provide meaningful opportunity for non-endorsed permits either the number of endorsement qualifiers would have to be reduced to just a few or the amount of gear switching for each qualifier substantially reduced. To provide meaningful opportunity for endorsed permits, the gear switching opportunity for endorsed permits would have to be substantially reduced.

5. ALTERNATIVE 3 – ACTIVE TRAWLER

Under Alternative 3, there are two pathways in which participants would be able to gear switch: active trawler designation (ongoing opportunity) and the active trawler exemption (legacy participants). For the active trawler designation, those trawl vessels that harvest a specified amount of groundfish in a year would be able to gear switch up to one percent of the sablefish allocation in that year and the following year. Vessels that receive an exemption would be able to gear switch 0.6 percent of the allocation or the QS owned as of and since the control date. “Backstop” provisions call for downward adjustments to the amounts of gear switching individual participants are allowed, as needed to keep the gear switching for each of these groups to less than 10 percent of the trawl allocation (less than 20 percent for both groups combined).

5.1. Certainty

The current design of Alternative 3 does not provide certainty of being within the 29 percent gear-switching cap for a particular year. However, given the 10 percent backstop and adjustment procedure for each group, while not providing perfect certainty in a given year, it does provide a

high level of certainty of being within the 29 percent on average. Based on ownership records as of 2019, the maximum amount of exempted vessel (legacy opportunity) gear switching under the current qualifying options would be 9.04-9.64 percent as shown in Table 11. If the Council intent is that the 29 percent apply only to legacy participants, then that criterion would be met.

Table 11. Exempted vessels and associated gear switching limits under Alternative 3.

Qualifying Option	Number of Qualifiers	Total of Qualifier Limits
1	11	9.04%
2	12	9.64%

If the Council intent is that the 29 percent apply to gear switching by all participants, then there would not be certainty of meeting the criterion. Any vessel that meets the criteria of an active trawler, would be able to gear switch up to one percent of the sablefish north allocation. If the combined total of gear switching by active trawlers in a year exceeds the ten percent “backstop”, then the one percent limit for vessels can be adjusted downward. Within the group of vessels that can acquire a trawl permit in a given year, there are no limits on the number of those vessels that can gear-switch. Therefore, there is no certainty that the amount of gear switching by active trawlers alone would remain within the 10 percent backstop or within the 29 percent maximum in a given year. For reference, an average of 86 percent of vessels that trawl in the IFQ sector annually (or 66 vessels on average from 2011-2019) would meet the active trawler requirements in a year ([Figure 6 of Agenda Item C.5., Attachment 3, September 2021](#)). Assuming the average number of qualifying active trawler vessels, this could theoretically allow for 66 percent of the allocation to be gear switched in a particular year. With respect to the gear switching level for all participants, the exempted vessel gear switching levels would add 9 to 10 percent to this value (Table 11). If each of these vessels utilized this opportunity, it would lead to the activation of the backstop provision to reduce the active trawler gear switching limit in subsequent years.

As the legacy exemptions expire (either when the ownership changes or 12 years after implementation), active trawlers would be the only group of vessels that could gear switch. As described above, the long-term would still have the potential for gear switching to exceed the 29 percent maximum in a given year—prior to backstop adjustments in subsequent years.

5.2. Projections

This section provides projections of gear switching levels for both legacy participants (exempted vessels) and ongoing opportunities (active trawlers). For exempted vessels, the projected amount of gear switching in the short term would be less than or equal to the limits shown in Table 11 above. As mentioned under Section 5.1, if the Council’s intent is to apply the 29 percent criterion only to legacy participants, then it would be still well less than that level. Over time, these exemptions would expire leading to zero gear switching from this group of vessels in the long term.

While the potential pool of active trawling vessels could be the majority of the trawling fleet, the likelihood of each of those vessels using the one percent gear switching limit is low. Based on data from 2011-2019, there has been an average of two vessels that actually gear switch and trawl within a given year (derived from [Table 20](#) of Agenda Item C.5., Attachment 3, September 2021). Assuming that each of these vessels were to take the full gear switching limit of one percent, this would only equate to two percent total for this group, well beneath the ten percent backstop.

Therefore, combined with the projections for exempted vessels, this alternative in the short term would be well within the 29 percent maximum for all participants at approximately 11-12 percent depending on the exempted vessel criteria chosen. Over the long term, as those active trawler exemptions expire, the overall amount of gear switching would be likely minimal.

5.3. Summary of Alternative 3 Gear Switching Levels

The following table summarizes for Alternative 3 expectations for whether the alternative would be within the 29 percent maximum. Whether the alternative is expected to be within the maximum also depends on a number of factors to be determined by the Council: 1) qualification options selected, 2) the desired level of certainty of being within the maximum; 3) whether it is intended to apply to all gear switching activity or just gear switching by legacy participants; and 4) whether the maximum is intended to apply for the short- or long-term.

Table 12. Summary evaluation of meeting the 29 percent gear switching maximum criterion under Alternative 3.

	Certainty	Projection
Short Term	<p><u>Active Trawlers</u>: Absolute certainty difficult to achieve due to possible vessel population that is up to twice the number of permits and could achieve active status.^{a/ b/}</p> <p><u>Exempted Vessels</u>: 9.04-9.64%</p>	<p><u>Active Trawlers</u>: Less than 10%</p> <p><u>Exempted Vessels</u>: Likely less than 9.04-9.64%</p>
Long-Term (After the exemption expiration)	<p><u>Active Trawlers</u>: Absolute certainty difficult to achieve due to possible vessel population that is up to twice the number of permits and could achieve active status; high level of certainty of achieving average of 10% after backstop adjustments.^{a/}</p> <p><u>Exempted Vessels</u>: 0%</p>	<p><u>Active Trawlers</u>: Less than 10%</p> <p><u>Exempted Vessels</u>: 0%</p>

a/ While it is extremely unlikely, because permits can be transferred between vessels a single time during the year, the absolute limitation on the number of vessels that can participate in the IFQ program is twice the number of trawl permits. Ignoring the possibility of permit transfers, the active trawler limit would have to be reduced from 1 percent to 0.12 percent for all permits to gear switch.

b/ Depending on the duration of the “short-term” and degree to which the 10 percent limit is exceeded in a given year, there may be a high level of certainty of being below 29 percent.