

GROUND FISH MANAGEMENT TEAM REPORT ON SABLEFISH GEAR SWITCHING-- IDENTIFY THE GEAR SWITCHING LEVEL TO USE IN DEVELOPING ALTERNATIVES

The Groundfish Management Team (GMT) reviewed the materials in the briefing book, as well as public comments, and participated in a joint briefing with the Groundfish Advisory Subpanel (GAP) provided by Dr. Jim Seger and Ms. Jessi Doerpinghaus from Pacific Fishery Management Council (Council) staff, and had several lengthy discussions.

Executive Summary

The GMT is not providing a recommendation on adoption of a gear switching level(s), as we ultimately understand this to be a policy decision. However, the team offers the following comments on the context of sablefish management and the analysis on gear switching levels to inform the Council's discussion. Starting in 2021-22, with the ability to reevaluate every biennium, the Council reduced their level of precaution for sablefish in response to stock assessment results, and the sablefish north of 36° N. lat. annual catch limit (ACL) will be apportioned an additional 4.8 percent. Additionally, the Individual Fishing Quota (IFQ) Program's initial goals and objectives should guide the Council as it considers action to address the issue of IFQ trawl under-attainment, including whether those objectives are currently being met. The GMT then provides a brief summary of the structure of the analysis, highlights a few points made in the analysis, and provides a look at the potential impacts to the different user groups.

Status of Sablefish

The sablefish harvest specifications for 2021 and 2022 reflect an increase in the total amount of coastwide sablefish available and reapportion that amount north and south of 36° N. lat. The overall increase in available sablefish was developed from the 2019 stock assessment that estimated the stock at 39 percent of unfished biomass at the beginning of 2019 ([Haltuch et al. 2019](#)), an increase from the 2015 assessment estimate of 35 percent of unfished biomass. As a result, the Council reduced the level of precaution applied to determine the acceptable biological catch (ABC) below the overfishing limit (OFL) (i.e., set a P* value of 0.45, up from 0.40, where a value of 0.50 would indicate no precaution applied). Additionally, the Council updated how the ACL is apportioned north and south of 36° N. lat., which had previously been based on long-term trawl survey biomass. Beginning in 2021-22, the Council recommended using a 5-year rolling average of the estimated biomass by area, which allows the allocation to more closely match the current biomass trend by area. Based on this approach the ACL apportionment allocated 78.4 percent to the north and 21.6 percent to the south¹. This updated method increased the ACL allocated to the north by 4.8 percent for sablefish north of 36° N. lat., resulting in 6,892 mt in 2021 and 6,566 mt in 2022 (Figure 1). The 2021 ACL for sablefish south of 36° N. lat. is 1,899 mt, and the 2022 ACL is 1,809 mt.

¹ <https://s3.amazonaws.com/media.fisheries.noaa.gov/2020-12/2e2.0648-BJ74.2021-22%20Harvest%20Specifications.EA-RIR12092020-final.pdf?null=>

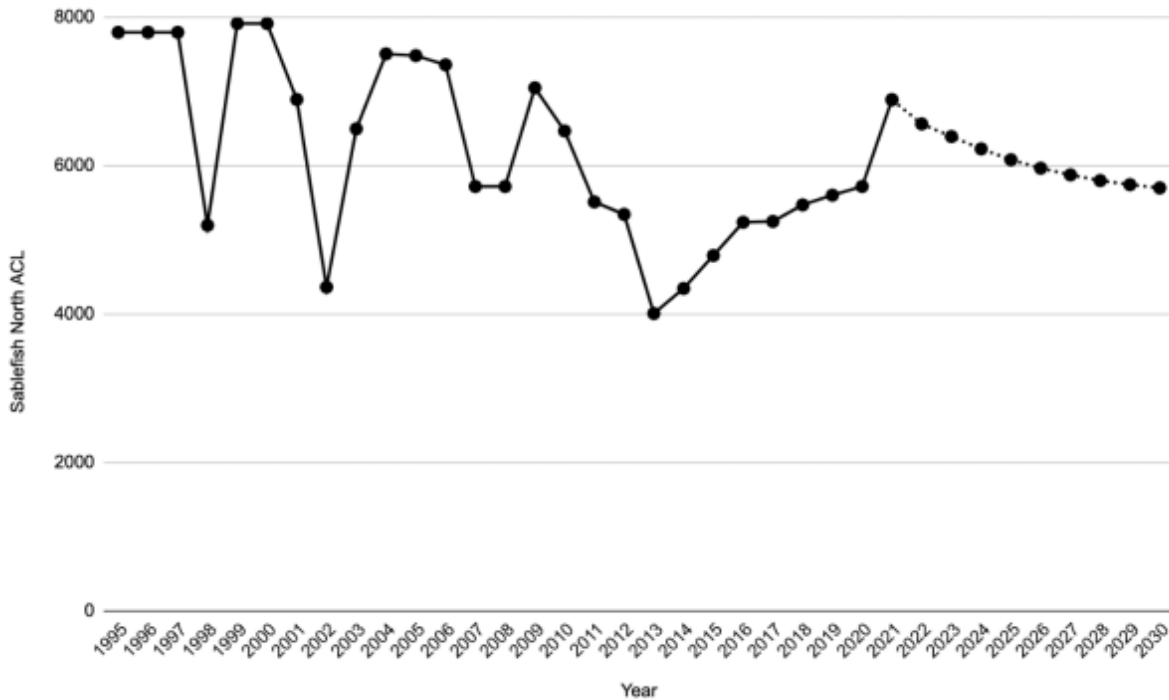


Figure 1 Sablefish north of 36° N. lat. ACLs 1995-2030 (in mt) based on the updated north/south apportionment method selected in the 2021-22 harvest specifications package, copied from Figure 36 in Agenda Item D.1, Attachment 1, September 2020.

Two items scheduled for 2021 will influence future sablefish ACLs and allocations. First, an update assessment is scheduled for early June 2021 and will be used to determine sablefish OFLs and ABCs for 2023-24, and beyond. Second, the Council is undertaking a Management Strategy Evaluation (MSE) process for sablefish. The introductory workshop to solicit feedback on the process is scheduled for April 27-28, 2021². The MSE process will determine near-term management strategies, and identify and prioritize additional ideas for future research. The outcome could impact the geographical split of the sablefish allocation or impact the harvest specification and/or allocations in other ways. The Council should consider how gear switching may interact with these larger potential changes, and when determining a policy on gear switching, recognize and account for the wide range of possible future scenarios over the long period of time that this policy would likely be in place.

Catch Share Program Objectives

Under this agenda item, the Council will discuss the degree to which gear switching should be limited in order to potentially increase attainment of certain stocks by the non-whiting trawl sector. To contextualize this decision within the larger framework of the IFQ program, the GMT reminds the Council of the initial goal and objectives of the Catch Share Program ([Amendment 20](#)), which are shown below. The GMT encourages the Council to keep the program’s initial goal and

² <https://www.pcouncil.org/events/sablefish-management-strategy-evaluation-workshop-to-be-held-online-april-27-28-2021/>

objectives in mind when considering an action to address this issue’s purpose and need ([Agenda Item G.1, Attachment 3, November 2020](#)).

Goal

Create and implement a capacity rationalization plan that increases net economic benefits, creates individual economic stability, provides for full utilization of the trawl sector allocation, considers environmental impacts, and achieves individual accountability of catch and bycatch.

Objectives

The above goal is supported by the following objectives:

1. Provide a mechanism for total catch accounting.
2. Provide for a viable, profitable, and efficient groundfish fishery.
3. Promote practices that reduce bycatch, discard mortality, and minimize ecological impacts.
4. Increase operational flexibility.
5. Minimize adverse effects from an IFQ program on fishing communities and other fisheries to the extent practical.
6. Promote measurable economic and employment benefits through the seafood catching, processing, distribution elements, and support sectors of the industry.
7. Provide quality product for the consumer.
8. Increase safety in the fishery.

Comments on the Analysis of Gear Switching Levels

The GMT reviewed and discussed the analytical document in the briefing book ([Agenda Item F.4, Attachment 1, April 2021](#)) and provides a brief summary of the analysis structure before offering comments on components within.

The analysis focused on the following proposed gear switching hypothetical scenarios:

- gear switching is constraining the trawl fleet and is reduced to zero;
- gear switching is constraining and is reduced or remains at recent levels (12, 20, and 33 percent);
- gear switching is constraining and is expanded (40 and 52 percent); and
- gear switching is not constraining to the trawl fleet but increases or is decreased to one of the previously mentioned levels.

Impacts were assessed in the short- and long-term for a variety of different user groups: the gear switchers, trawl fleet, quota share owners, first receivers, and communities. In addition to looking at potential impacts to the non-whiting trawl fleet and gear switchers in 2019 under the various gear switching limits, comparisons were also made between actual landings and the gear switching limit under the “cap” for each allocation level for the Dover sole-Thornyhead-Sablefish (DTS) trawl strategy based on a reference year: low ACL (2013), medium ACL (2019), and high ACL (2021).

The analysis documented a number of necessary assumptions and unknowns. Specifically, for the purposes of the analysis, gear switching limits were analyzed with the assumption that each limit is fully utilized by gear switching vessels. As stated in Section 4.0, on page 46, it is likely that in reality, “mechanisms used to establish the limit could result in lower levels of gear switching than

modelled” and therefore greater gear switching reductions and impacts than predicted. At the same time, depending on the management system set up to manage for the maximum gear switching levels, there could be overages of those maximums.

The underlying unknown of whether gear switching has a direct, indirect, or no effect on trawl attainment is underscored in the analysis. It also assumes that if the amount of gear switched sablefish quota pounds (QP) were instead used by trawlers, the markets could absorb the product and the ex-vessel value projections assume prices would not be impacted. The analysis looks at scenarios in which assumptions are made about whether gear switching is or is not constraining trawl attainment. Notably, several risks are associated with the assumption that gear switching is constraining and trawlers do not alter the proportion of sablefish caught; if this assumption is wrong and gear switching is still reduced or eliminated, “sablefish QP [c]ould go unused and a substantial decline in QP prices might occur,” in addition to a maximum of \$3.8 million (\$2019) in revenue losses by the gear switching vessels. Based on the decreasing proportion of sablefish in the species mix since 2007 (as trawlers likely sought to conserve sablefish to catch more Dover sole), there might be a reasonable possibility that trawlers could modify their tactics to increase the proportion of sablefish in their catch.

The analysis states that the limited entry fixed gear (LEFG) fishery and the Dungeness crab fishery appear to have the highest rate of crossover into the IFQ fixed gear fishery. On page 41, the document states that:

Thus, the overall profit for LEFG primary trips could provide more incentive to prioritize those trips compared to gear switched trips. However, the potential harvest opportunities in the IFQ sector in 2021 (311,472 lbs for an annual vessel limits) compared to the maximum in the LEFG primary fishery (three tier 1 permits = 175,947 lbs) could outweigh those costs.

The GMT notes that the 2021 IFQ annual vessel limit has increased by 20 percent from that of 2020 (261,592 lbs), while the total amount of three primary tier 1 stacked permits increased by 21 percent from the 2020 value (145,929 lbs). Regardless, the analysis points out that nearly all fixed gear vessels which cross over to the IFQ program from the LEFG tier program are maxed out in terms of opportunity to stack permits in the LEFG sector. In terms of the gear switching fleet, from 2016 to 2019 there have been an average of two new entrants, but the vessels and permits in the same time period have stabilized at 15 to 16, which “may suggest that the fleet and/or markets are operating close to capacity” (p. 48).

On page 56, when discussing the scenario where gear switching is displacing trawl and is eliminated, the document states:

If all the gear switched QP in 2019 were instead used for DTS, under the average catch ratio for Dover sole to sablefish for all bottom trawl trips with sablefish present in 2019 (3.96; Figure 29), it would result in an additional 7.96 million pounds of Dover sole, leaving ~80 percent still unutilized. Sablefish allocations are increasing in 2021, yet it would still require 3.7 times the sablefish north trawl allocation (~25.5 million lbs) to

harvest the 2021 allocation of Dover sole, using the 2019 average catch ratio of Dover sole to sablefish (3.96:1).

Thus, under the assumptions that gear switching is constraining trawl attainment, trawlers do not change their species mixes, all gear switching sablefish QP are used by trawlers, and markets are able to fully absorb additional sablefish, a full elimination of gear switching would not result in full attainment of the Dover sole allocation. Full elimination of gear switching theoretically would result in an estimated increase in total non-whiting trawl attainment (all stocks) of 7.4 percent in 2019, which would equate to \$8.9 million in revenue under the assumptions previously mentioned (Table 30 of [Attachment 1](#)). Although this action may serve to redistribute sablefish QP among user groups, it is unclear whether or not a reduction or elimination of gear switching would help to meet the Catch Share Program goal of providing full utilization of the non-whiting trawl sector allocations.

Impacts to User Groups

Table 1 below shows the retrospective change in revenue in 2019 dollars for gear switching and non-whiting trawl vessels under the assumption that gear switching is constraining trawl attainment (from Table 30 in [Attachment 1](#)). The GMT calculated the absolute differential, in addition to the net change, between the anticipated gains and losses across the two user groups. Larger absolute differentials represent a greater magnitude of difference between gains of one group and losses of the other.

Table 1. Retrospective change in revenue (in millions of 2019 dollars) by gear group and the absolute difference in gain and loss by each sector under each hypothetical level of gear switching, assuming gear switching is constraining trawl attainment and markets can absorb the full additional amount of sablefish quota pounds under a limit. (GS = gear switchers; NWT = non-whiting trawl)

Level of Gear Switching (%)	Gear Switching a/	Non-Whiting Trawl a/	Net Change a/	Absolute Differential (rounded)	Gaining User Group
52	+\$1.8	-\$6.1	-\$4.2	\$8	GS
40	+\$0.5	-\$1.8	-\$1.3	\$2	GS
33	-\$0.3	+\$0.8	+\$0.5	\$1	NWT
20	-\$1.6	+\$5.4	+\$3.8	\$7	NWT
12	-\$2.5	+\$8.3	+\$5.9	\$11	NWT
0	-\$3.8	+\$12.7	+\$8.9	\$17	NWT

a/ Values from Table 30 of the Attachment 1 analytical document

Unsurprisingly, the recent level (33 percent) of gear switching is estimated to have the lowest absolute differential and therefore the lowest expected difference in loss and gain between the two groups compared to the current state of the fishery. For both the short-term and the long-term, the Council should weigh the potential impacts to the various user groups as well as how any additional opportunity may impact coastal communities and seafood consumers.

The absolute differential above is calculated at the fleet level and does not describe individual vessel impacts which may vary significantly depending on the frequency and volume that a vessel engages in gear-switching. The calculation also does not describe individual port level impacts, or the geographic distribution of gains and losses. Section 4.1.5 of the Attachment 1 analytical document discusses the variability of impacts by geographic region and port and, in all but one of the ports in which gear switching landings are made, trawl landings are also made. Therefore, the proportion of trawl and gear switching landings at the port level will inform how the fishery-level changes translate to, and even balance in, that port. As noted in the document (Section 4.1.5(b)) there could also be impacts felt in ports that don't currently have gear switching landings (Table 27) but where LEFG vessels are taking advantage of the gear switching opportunity and landing elsewhere while spending revenue in their homeport.

Other Considerations

The Council's action at this meeting is to select a gear switching level to guide development of gear switching alternatives. The GMT acknowledges the input from groundfish fishery stakeholders during Council meetings, climate scenario planning workshops, and other similar avenues regarding an increasing need for flexibility in light of expected increases in market variability. For any allocation decision the Council makes regarding different gear groups and shifts in fishery participation, the GMT encourages the Council to keep this need for long-term flexibility in mind.

If the Council selects a gear switching level(s) and schedules selection of a range of alternatives for June, the GMT looks to the Council on any guidance pertaining to analytical expectations from the GMT between now and June, but encourages the Council to consider the number of already agendized groundfish items currently scheduled for the June meeting ([Agenda Item H.5, Attachment 2, April 2021](#)). At this time, the GMT is not aware of any additional analyses that would help the Council in making a decision on this action, and we believe a Council policy decision is needed to move forward.

PFMC
04/09/21