

TRAWL CATCH SHARE PROGRAM REVIEW  
**Annotated Outline**

*The Magnuson-Stevens Act (MSA) requires periodic reviews of catch share programs. In compliance with the MSA required timelines, the review of the Trawl Catch Share Program was started with planning steps June of 2022 but progress was delayed due to the need to complete deliberations on gear-switching. The review process was reinitiated after the April 2024 meeting at which the Council made a final gear-switching decision.*

**Notes on Highlighted Text**

Orange text highlights for the Council and public where particular attention is needed to move this document from a draft annotated outline to a final review document. Orange text should be deleted by the time the final draft is produced.

Grey text is intended to inform the Council, public, and drafters about the content suggested for inclusion in each section. Grey text should be removed from the draft document.

Blue text is intended to remain in the final draft as text boxes.

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## 1.0 INTRODUCTION

The Magnuson Stevens Act (MS) requires that catch share programs

include provisions for . . . a formal and detailed review 5 years after the implementation of the program and thereafter to coincide with scheduled Council review of the relevant fishery management plan (but no less frequently than once every 7 years)

MSA (303A(c)(1)(G))

National Marine Fisheries Service (NMFS) “Guidance for Conducting Review of Catch Share Programs” ([NMFSPi 01-121-01](#)) indicates that subsequent reviews “should be initiated before the end of the program’s 12th year, regardless of when the initial review was actually completed” (p. 3).

The catch share program was implemented in 2011 and initial planning for this review (the second trawl catch share program review) began at the September 2022 meeting. At that time, the Council decided to commence the process by developing and updating analytical documents that summarize the effects of the trawl catch share program. However, the Council was also in the process of considering revisions to central provisions of the program related to the gears allowed (gear switching). These deliberations were complex and required substantial resources such that it was not possible to commit Council agenda and staff time to a program review. Further activity on the program review was therefore delayed, pending completion of the gear-switching deliberations. Those deliberations were completed at the April 2024 meeting and staff work on the review document commenced shortly thereafter.

### 1.1 Process for Program Review

Outline the process and provide a rationale for its design. Main topics might be differences from the last review document: decision to convene a Community Advisory Body, or not.

#### 1.1.1 Completing the Review Document

Steps for completing the review document:

1. Approve an annotated outline, including identifying any topics for special emphasis in this review process (Section 2.12).
2. Complete a draft of the program performance and review sections (Section 2.0).
3. Review and update 2017 research and data needs – documenting actions that have been taken to address the needs and identifying any new needs. Finalize needs list after public review (Section 3.0).
4. Create a summary of major findings (Section 4.0).
5. Develop Council recommendations for public review and then finalize those recommendations when review document is adopted (Section 5.0).

In addition to finalizing the review document, the Council may want to consider whether or not to have a Community Advisory Board (CAB) or other advisory body meet in conjunction with the review process or after the completion of the review in the development of any follow-on action. The Amendment 20 policy adopted by the Council stated “A community advisory committee will take part in the review of IFQ program performance” (Groundfish FMP, [Appendix E, p. E-16](#)). The Council has also recommended hearings occur (see Agenda Item I.7, Attachment 3 for details).

### **1.1.2 Depth of Focus for This Review**

The first trawl catch share review included an indepth focus on conditions in the fishery that changed after initial implementation of the program. The resources dedicated to the process and recommendations from that review are described in Section 1.3. This review focuses more on how program performance might have changed since the period covered by the first review (although some references to precatch share conditions continue to be important). Because changes that have occurred during the catch share program have not been as substantial as the change from pre-catch share management, less information is needed for the review. As with the previous review, the review results are not intended to necessarily be definitive with respect to program performance (not expected to demonstrate certain cause and effect). Rather review results may indicate areas where further investigation might be warranted to understand the influence of the program over a particular outcome and whether changes are needed.

## **1.2 Description of the Trawl Catch Share Program**

There are separate catch share systems for each trawl sector covered under the trawl rationalization program: the shoreside sector (i.e. shorebased individual fishing quota or IFQ program), the at-sea mothership (MS) sector and the at-sea catcher processor (CP) sector. Privileges allocated as part of the trawl catch share program are not rights. Adverse findings from program reviews (or other studies and reports) could lead to consideration of dissolution of the program, revocation of all or part of quota shares or co-op allocations, or the implementation of other fundamental program changes.

A program for the mandatory submission of economic data facilitates the monitoring of program performance—the economic data collection program (EDC). Program cost recovery fees for all three sectors were implemented starting in 2014. Program benefits are expected to exceed costs and will be evaluated as part of program performance review.

### **1.2.1 Shorebased Trawl IFQ Program [1st Draft Done]**

The shoreside sector is managed with an IFQ program that replaced most cumulative landing limits and seasonal whiting fishery management with individual fishing quotas. Under the Magnuson-Stevens Act, “an ‘individual fishing quota’ means a Federal permit under a limited access system to harvest a quantity of fish, expressed by a unit or units representing a percentage of the total allowable catch of a fishery that may be received or held for exclusive use by a person.”

An IFQ grants an entity the privilege to catch a specified portion of the shoreside trawl sector's allocation. Within the IFQ program, vessels are allowed to use a variety of directed groundfish commercial gear (including nontrawl gear) to take the shoreside trawl sector allocation, which enables "gear switching." At its April 2024 meeting, the Council recommended gear-switching for sablefish north of 36° N lat, be restricted in years when the annual catch limit for northern sablefish is less than 6,000 mt. In those years, all QS owners will receive some QP eligible for gear-switching (any-gear QP). Those with a qualifying history would likely receive most or all their QP as any-gear QP, while all others will receive a portion as any-gear QP and the remainder as trawl-only QP. In years where the annual catch limit is greater than 6,000 mt, there will be no restrictions on gear switching.

IFQs have been created in regulation for most species of groundfish under the Groundfish Fishery Management Plan (FMP) (although some will still be managed collectively at the stock complex level, e.g., slope rockfish south of 40° 10' N. lat.). Some groundfish species rarely caught by trawl gear and dogfish are excluded from the IFQ program. There are provisions established in regulation that provide reallocation rules when species groups or area divisions are modified. For species not covered by IFQ, catch is monitored and mortality deducted against the fishery HG. For trips targeted on whiting, IFQ will be required for whiting and bycatch species.

Halibut individual bycatch quota (IBQ) is required to cover the incidental mortality of Pacific halibut in the groundfish trawl shoreside fishery. Under the IBQ provision, retention will not be allowed.

Prior to the start of each fishing year, NMFS issues QP to entities based on the amount of QS they hold and the shoreside trawl sector allocation. The QP must be transferred to a vessel account in order to be used. When a vessel goes fishing under the IFQ program, all catch (including discards) must be covered by QP from the vessel's QP account (i.e. vessel account). Survival credits may be provided for species that have relatively low discard mortality rates, reducing the amount of QP required to cover the catch. If there is not enough QP to cover the catch from a trip, there is a 30-day grace period during which adequate QP must be transferred into the vessel's account. A vessel may not begin another IFQ fishing trip, and its permit cannot be sold, until the overage is covered. After the 30-day grace period, the vessel is considered in violation of the program, unless the overage is within the amount allowed by the carry-over provision. A carryover provision allows for an overage in one year to be covered by up to 10 percent of the following year's QP; likewise, the provision also allows QP that were not used in one year to be carried over into the following year, up to 10 percent.

Generally, anyone eligible to own a U.S.-documented fishing vessel may also acquire QS and QP, and the QS and QP may be acquired in very small increments.<sup>1</sup> These provisions allow for new entrants into the fishery; for example, a crewmember could purchase quota in small increments. They also allow for ownership of QS by entities that do not otherwise participate in the fishery.

Transferability is an important component; however, it can be and is limited in order to protect against unintended consequences. For example, there are accumulation limits on the amount of

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<sup>1</sup> To be eligible to own QS, the person need not actually own a U.S. documented fishing vessel.

QS that can be controlled by an entity and vessel limits for the amount of QP able to be annually used by a vessel. The intent of these limits is to prevent excessive control of quota by a participant.

An adaptive management program (AMP) allows the Council to use 10 percent of the trawl allocation to provide incentives, support, or other compensation to offset adverse impacts of the program. To date, these QP have been passed through to QS holders in proportion to their QS holdings. If the Council decides to use the AMP, that use would be specified in a subsequent regulatory action.

A tracking and monitoring program is necessary to ensure that all catch (including discards) is documented and matched against QP. Initially, at-sea observers were required on all vessels, as well as shoreside monitoring during all off-loading (100 percent coverage). The Council has developed a policy to allow electronic monitoring systems that use cameras and other sensors to substitute for observers on certain vessels.

### **1.2.2 Pacific Whiting At-Sea Mothership Sector (MS) (to be further developed)**

The Pacific whiting MS sector is managed through a system of cooperatives (co-ops) under which catcher vessels choosing to fish in a co-op would be obligated to deliver their catch to an associated MS processor. Each year motherships and catcher vessels must identify which co-op they plan to participate in. If they do not plan to join a co-op for that year, they can participate in a non-co-op fishery.

### **1.2.3 Pacific Whiting Catcher-Processor Sector (CP) (to be further developed)**

The Pacific whiting CP sector operates as a single, voluntary co-op. If the voluntary CP co-op dissolves, any allocation to the sector will be divided equally among the CP endorsed permits.

## **1.3 Prior Program Review and Council Recommendations**

The first program review commenced in June 2016 with preliminary planning and adoption of a review calendar and commencement of scoping. It was completed with Council adoption of the review document in November 2017 (2017 Review). For the review, a large team conducted an extensive analysis, supported by supplemental funding from NMFS. The team that conducted the review included seven primary authors, 14 contributing authors, and 22 other individuals that provided contributions and pre-release review of the document. Due to the amount of information developed, the Council requested that it be summarized around four key policy questions:

1. How did net benefits to the nation derived from this fishery change after implementation of the catch share program?
2. How did financial outcomes for participants in the fishery change following catch share program implementation?
3. Did the distribution of cost, revenues, effort, and net benefits among fishery participants (including communities and user groups) change?

4. Did utilization rates for specific species change following catch share program implementation?

The information addressing these key questions can be found in the [executive summary](#) of that review. Information to support an evaluation of each Amendment 20 goal and objective, the MSA National Standards, and catch share design considerations required by the MSA was provided, as reflected in [Table ES-1 of the 2017 Review](#).

The Council’s 2017 Review recommendations included moving forward with deliberations on a number of items, listed in Table 1 along with the status of those recommendations.

Table 1. Council recommendations from the 2017 program review and status of the related management measures.

| Recommendation   | Status  |
|--|---|
| Schedule the next review of the trawl catch share program for 2022, with subsequent reviews to occur every six years after that.   | Start of this review delayed due to gear-switching deliberations.                                       |
| Collect revenue and cost information from QS owners  | Completed (Implemented by the EDC)  |
| At-sea Whiting Fishery Bycatch Needs<br>Managing with set-asides instead of bycatch caps, removal of allocation formulas from the FMP, removal of NMFS automatic closure authority.                                      | Completed   |
| Shorebased IFQ Accumulation Limits (Control and Vessel Limits)<br>1. Annual Vessel QP Limits<br>2. Eliminate Daily Vessel QP Limits for OFS (and possible elimination of the daily QP limit policy)                      | 1. Completed<br>2. Completed  |
| Shorebased IFQ Sector Harvest Complex Needs<br>1. Post-season Trading<br>2. Post-season Relief from Annual Vessel QP Limits<br>3. Post-season Sale of Additional QP by NMFS  | 1. Completed<br>2. Completed<br>3. Not taken up.  |
| CP Sector Accumulation Limits<br>• Accumulation Limit Implementation Alternatives<br>• Permit Ownership Limit<br>• Processing Limit  | Completed consideration of CP accumulation limits (5 permit ownership limit if CP co-op fails to form). |
| New Data Collections<br>1. Catcher-Processor Owners Survey<br>2. QS Owner Survey for Revenue and Cost Info (includes those who are not otherwise required to submit economic information needed for program monitoring). | 1. Completed<br>2. Completed  |
| Continuation of adaptive management program QP pass-through  | Completed (Indefinite continuation)   |

As of completion of the 2017 Review, the Council had not made a determination on whether to pursue consideration of

- Restricting gear switching
- Changes to the management of sablefish south of 36° N. lat.

At its March 2018 meeting, the Council elected to take up these issues. The Council took final action to recommend a [restriction to gear-switching](#) at its [April 2024 meeting](#). It also altered the basis for distributing ACLs between the areas north and south of 36° N lat. using a more recent



five year rolling average of the bottom trawl survey biomass rather than the long term average ([2021-2022 Biennial Harvest Specifications](#)) but did not make other modifications to management of southern sablefish.

The Council decided not to include the following possible actions in its 2017 Review follow-on package but rather deferred prioritization to the fall of 2018 through the groundfish workload prioritization process:

- Between Trawl Sector QP Trading (no action taken)
- Carry-over of At-sea Set-asides (no action taken)
- Trawl/Non-trawl Allocation Alternatives (some modifications made as part of the biennial specifications process- see Intersector Allocation Review)
- Aggregate Non-whiting QS Control Limits and Related QP Weighting Formulas (no action taken)
- Allow at-sea whiting processing south of 42° N lat. (no action taken)
- Increase the 10 percent carryover provision (initially grouped with consideration of ACL flexibility, until ACL flexibility was dropped at the November 2018 Council meeting).

As part of its 2017 review, the Council also identified a number of research and data needs. The 2017 recommendations are provided in Section 2.12 of this document.

#### **1.4 Management Actions Taken Since the Last Program Review**

Between implementation of the catch share program and the 2017 Review and update of Appendix E, there were 139 modifications to the program ([PFMC Agenda Item F.5, Attachment 2, September 2016](#)). The last Council action included in this list occurred in April 2016. Since the last review, there have been a number of actions which modified the program and may have affected program performance.

##### **1.4.1 Actions Implemented Since Start of 2015 – After Coverage Period for The Last Review.**

The 2017 review included data from the following sources through the indicated date.

- Social Science Survey – through 2016.
- EDC data – through 2015.
- PacFIN data – through 2016.
- WCGOP data – through 2015

The economic performance evaluation largely relied on EDC data, for which the 2017 Review time series ended with 2015. Therefore, any actions implemented after the start of 2015 may have impacted the program in a manner not reflected in substantial portions of the last review (because at best, there would have been only a partial year of impact in 2015).

There are three categories to consider in identifying the actions occurring since the period covered by the last review.

- Actions taken prior to the last review which were implemented during or after the last data year fully covered by the review (2015). These may include some of the 139 actions just mentioned.
- Actions taken after the last review and implemented prior to the last data year to be used in this review (2022).
- Actions taken after the last review that have not been implemented or were only recently implemented and so will not be reflected in the data for this review.

A list of actions taken and implemented after the start of 2015 through to the end of the data series for this review is provided in Table 2.

Table 2. Regulations and amendments modifying the trawl catch share program implemented after the years covered by the 2017 Review.

|   | Spex, FMP or Reg Am | Trawl Sectors Impacted |    |    | Action/Effective Dates   | Action Description  |
|---|---------------------|------------------------|----|----|--|---|
|   |                     | SS                     | MS | CP |  |   |
| 1 | Reg Am              | X                      | X  | X  | <a href="#">Final Council Action</a> : April 2012.<br>Effective date: May 21, 2015.  | Observer/catch monitoring rule (NMFS proposed trailing action):<br>a. Implement certification and decertification requirements for persons interested in providing certified catch monitors and observers.<br>b. Update observer provider and vessels' responsibilities relative to observer safety.<br>c. Make administrative changes to the observer and catch monitor program, including revision to briefing periods in catch monitor certification requirements.   |
| 2 | Reg Am              | X                      | X  | X  | <a href="#">Final Council Action</a> : Effective date: Jan 13, 2016.   | Whiting and midwater (MWT) trawl cleanup rule: resolving inconsistencies and numerous unclear and confusing management restrictions relating to the use of midwater trawl gear that arose when catch share regulations were implemented.<br>a. Require use of MWT gear while targeting whiting north of 40° 10' N. lat.<br>b. Allow use of MWT gear to target non-whiting during the whiting season (remove restrictions allowing MWT only in whiting fishery).<br>c. All MWT is exempt from the RCA restrictions north of 40° 10' N. lat.<br>d. Establish related declaration categories.<br>e. Define a Pacific whiting trip as a trip with greater than 50% whiting.<br>f. For maximized retention trips, allow retention of all prohibited species and provide for handling and disposition requirements. |
| 3 | Reg Am              | X                      |    |    | <a href="#">Final Council Action</a> : Apr., 2015<br>Effective Date: Nov 4, 2016   | Quota share divestiture rule: Allow abandonment of QS and specify rules for forced compliance with divestiture down to the aggregate control limit.   |
| 4 | Reg Am              | X                      |    |    | <a href="#">Final Council Action</a> : June 2014<br>Effective Date: Dec 23, 2016   | Dual Registration: Allow vessels to register both a trawl and fixed gear (longline and fishpot) endorsed permit at the same time.   |
| 5 | Reg Am              | X                      |    |    | <a href="#">Final Council Action</a> : Apr., 2015<br>Effective Date: Dec. 26, 2017<br><br>Widow transferable in early 2018 and divestiture by Nov 30 2018. | Widow rockfish QS reallocation and divestiture (New quota allocations made for 2018, in one or two steps).<br>Reallocate widow rockfish based on permit catch history of widow.<br>Remove the daily vessel QP limit for widow rockfish.<br>Allow trading of widow rockfish QS (previously under a trading moratorium).<br>Set a divestiture deadline for complying with QS control limits.  |

|   | Spex, FMP or Reg Am | Trawl Sectors Impacted |    |    | Action/Effective Dates  | Action Description  |
|---|---------------------|------------------------|----|----|---|---|
|   |                     | SS                     | MS | CP |   |   |
| 6 | FMP & Reg Am        |                        | X  | X  | <a href="#">Final Council Regulatory Action</a> and <a href="#">Final Council Amendment 21-3 Action</a> :<br>Sept 2016. Effective date: Feb. 7, 2018. | <p>Set-asides for the at-sea whiting co-ops: darkblotched rockfish and Pacific ocean perch (POP).</p> <p>Provide automatic authority to NMFS to close at-sea whiting sectors if darkblotched rockfish and POP set-asides plus buffers are likely to be exceeded (see below – authority removed in 2019)</p> <p>Amendment 21-3 changed darkblotched and POP from allocations to set aside management (did not change formula for amounts).</p>   |
| 7 | Spex Action         | X                      | X  | X  | <a href="#">2019-2020 Management Measure Specifications</a> :<br>Effective date, Jan 1, 2019.   | <ol style="list-style-type: none"> <li>a. Removal of automatic authority for NMFS to close at-sea whiting sectors if darkblotched rockfish and POP set-asides plus buffers are likely to be exceeded (originally provided by FMP Amendment 21-3).</li> <li>b. New lingcod and sablefish discard mortality rates and quota pound survival credit in the shorebased IFQ fishery.</li> <li>c. Removal of daily vessel quota pound limits in the shorebased IFQ fishery.</li> <li>d. Allow AMP to pass through to the shorebased IFQ fishery until an alternative use of AMP is implemented.</li> </ol> |

|   | Spex, FMP or Reg Am | Trawl Sectors Impacted |    |    | Action/Effective Dates   | Action Description  |
|---|---------------------|------------------------|----|----|--|---|
|   |                     | SS                     | MS | CP |  |   |
| 8 | Reg Am              | X                      | X  | X  | <p><a href="#">Final Council Action:</a><br/>Mar/June 2016<br/>Effective Date: Jun. 1, 2019.</p>   | <p><b>Gear regulation relief package</b> (includes related vessel operation restrictions—identified as a trailing action, relative to the program implementation rules).</p> <ol style="list-style-type: none"> <li>a. Eliminate minimum mesh size regulations for the codend and body of the net for bottom trawl gear and midwater trawl gear, except continue to require a 16 inch mesh for the first 20 feet behind the footrope (approach for measuring mesh size was also modified).</li> <li>b. Eliminate restrictions on double walled codends; eliminate chafing gear restrictions</li> <li>c. Change the selective flatfish trawl (SFFT) gear definition and restrictions. <ol style="list-style-type: none"> <li>i. Allow the use of two four-seam nets with no more than four riblines, and</li> <li>ii. Replace the restriction that requires use of SFFT gear shoreward of the trawl Rockfish Conservation Area (RCA) in the area north of 42° N. lat. with a restriction that requires use of small footrope trawl in that area.</li> </ol> </li> <li>d. Allow vessels to carry and use multiple groundfish trawl gears types on a single trip (fish caught using different gears must be stowed separately)—except that only SFFT is allowed onboard when fishing shoreward of the trawl RCA between 42° N lat. and 40°10' N lat.</li> <li>e. Allow a vessel to fish in multiple management areas on the same trip and assign catch to management areas in proportion to the vessel's effort in each area on that trip.</li> <li>f. Allow a new haul to be brought onboard and dumped before all catch from previous haul has been stowed.</li> </ol> |
| 9 |                     |                        |    |    | <p><a href="#">Final Council Action:</a> Various, including in 2014, 2016, and 2017.<br/>Effective dates:<br/>Implemented via Exempted Fishery Permits (EFPs) only, until regs became effective January 1, 2024.</p> | <p>Electronic Monitoring: Electronic monitoring is an alternative to at-sea observers for the monitoring of catch and discards in the trawl catch share fishery. Electronic monitoring EFPs were first issued in 2015. Regulations were then developed based on information collected in the EFPs. EM programs were established in regulation in 2019 for whiting catcher vessels and vessels using fixed gear (gear-switching) in the IFQ fishery, and in 2022 for bottom trawl and non-whiting midwater trawl vessels. Implementation of both programs was delayed until January 1, 2024, with use of EM systems continuing under EFPs until that date.</p>   |

|    | Spex, FMP or Reg Am | Trawl Sectors Impacted |    |    | Action/Effective Dates  | Action Description   |
|----|---------------------|------------------------|----|----|---|--|
|    |                     | SS                     | MS | CP |   |  |
| 10 | FMP Am and Reg Am   |                        | X  | X  | <a href="#">Final Council Action:</a><br>November 2018. Effective Jan. 16, 2020                               | Amendment 21-4.<br>a. Change canary rockfish and widow rockfish management from bycatch allocation to set asides (effective for 2020).<br>b. Remove sector allocation/set-aside formulas from the FMP for darkblotched, POP, and widow rockfish.   |
| 11 | Reg Am              | X                      |    | X  | <a href="#">Final Council Action:</a><br>November 2018. Effective Jan. 16, 2020                               | Catch Share Review follow-on action (rule promulgated in conjunction with Amendment 21-4):<br>a. Allow vessels to cover any end-of-year quota pound (QP) account deficits through post-season trading with those who have surpluses (prior to the determination of surplus and deficit carryovers).<br>b. After the season is over, do not apply the annual vessel QP use limits to vessel accounts with deficits needing coverage (vessels still must cover overages).<br>c. Eliminate the September 1 deadline for transferring QP to vessel accounts.<br>d. Adopt a five-permit accumulation limit for catcher-processor limits, but apply that limit only in the event that a catch-processor co-op fails to form.<br>e. Annually, collect detailed ownership information on catcher-processors.<br>f. Collect information on quota share ownership. |
| 12 | Reg Am              | X                      | X  | X  | <a href="#">Final Council Action: Apr, 2016.</a><br><a href="#">Effective date:</a> July 13, 2020             | Vessel movement monitoring rule:<br>a. Allow vessels to switch from MS to Shoreside declaration without first returning to shore.<br>b. Allow gear-testing without an observer on board.<br>c. Allow vessels on a trawl IFQ trip to move pot gear across mgmt. lines without returning to shore (mainly for gear-switching vessels).   |
| 13 | FMP Am              | X                      | X  | X  | 2021-2022 Management Measure Specifications and <a href="#">Amendment 29.</a><br>Effective date, Jan. 1, 2020 | FMP Amend 29: Convert the allocations from Amendment 21 formulas for widow rockfish, petrale sole, lingcod south of 40° 10' N. lat., and the Slope Rockfish Complex, including blackgill rockfish, to two-year allocations determined as part of the specifications process.   |

In addition to regulatory changes made in conjunction with the gear rule (Item 8, in Table 2), the Council authorized a number of trawl EFPs aimed at collecting information on salmon bycatch. Such bycatch information is key in determining the degree to which pre-catch share program restrictions to trawl gear operations may be further reduced. Activities under these EFPs would affect catch share fishery activity covered in this document. Trawl gear EFPs to explore impacts on salmon bycatch started in 2017, have continued through to the present, and are expected to be issued for the 2025-2026 biennium.

- In 2017, the Council approved and NMFS implemented an industry EFP proposal that allowed participants to use any mesh size and small footrope gear shoreward or the RCAs (two of the provisions the Council has recommended as part of the gear rule). This eliminated the selective flatfish requirement that currently applies to the area north of 40° 10' N. lat.
- In 2018, the Council recommended an EFP that included these provisions as well as a number of other provisions that were included in the Council's gear rule recommendations but had not been implemented on time for the 2018 fishery. The 2018 EFP included provisions to allow more extensive use of midwater trawl gear and recommended that NMFS revise the definition of continuous transit in the groundfish regulations.
- The 2019-2020 trawl EFP was similar to the 2018 EFP.
- Starting in and since 2020, the trawl sector has had one EFP aimed at collecting information on salmon bycatch during certain trawl activities. Specifically, this EFP allows:
  - Year-round midwater trawl for rockfish (allow the targeting rockfish prior to the start of the whiting season)
  - Exemption from the SFFT requirement between 40° 10' N. lat. and 42° N lat.

In addition to these Council actions, program performance was also impacted by an end to government subsidies for observer coverage. Starting in 2016, vessels began paying the full cost for their at-sea monitoring. More recently, observer daily rates have increased.

Council actions that do not modify the catch share program directly may still impact its performance. In some cases, the existence of the catch share program has contributed to allowing those actions (e.g. reduction of the trawl RCAs). Some of those actions are provided in Table 3. While noted here, these are not proposed to be analyzed under the catch share review but are listed here for context that may be helpful in interpreting results from the review.

Table 3. Other actions that might have particular impacts on performance of the catch share program.

| Action Date  | Action Description  |
|--|---|
| Final Council Action: Nov., 2019<br>Effective Date: Jun. 18, 2020.   | Short term action modified the 2020 harvest specifications.<br>Cowcod: Eliminated the ACT and reduced the research set aside to effectively raise the annual vessel QP use limit for cowcod (without changing the percentage specified in regulation), reducing the chance of a vessel being shut down as a result of high cowcod bycatch.<br>Shortbelly: Increased the ACL for shortbelly in order to reduce the risk of closing midwater trawl fisheries north of 40° 10' N. lat.                               |
| Final Council Action: Nov., 2019<br>Effective Date: Mar. 25, 2021.   | New routine preseason and inseason management tools for salmon bycatch mitigation.<br>Block area closures (BACs) for midwater trawl fisheries<br>Establish SFFT requirements for bottom trawl fisheries.<br>Pacific Whiting vessels may develop salmon bycatch mitigation plans and are required to provide annual summary reports on bycatch and effectiveness.<br>Authority to close trawl sectors when Chinook bycatch caps are reached.<br>Rules for accessing a salmon bycatch reserve.                      |
| <a href="#">Groundfish FMP Amendment 28: Essential fish habitat</a><br>Final Council Action: April 2018<br>Effective date: January 1, 2020 | <ul style="list-style-type: none"> <li>• Reopen the groundfish trawl RCA off Oregon and California to bottom trawling.</li> <li>• Modify the current configuration of EFH Conservation Areas where groundfish bottom trawl gear is prohibited coastwide. This includes a new EFH Conservation Area prohibiting groundfish bottom trawl gear in most of the Southern California Bight.</li> <li>• Prohibit use of all groundfish bottom contact gear in waters off California deeper than 3,500 meters.</li> </ul> |
| <a href="#">2023-2024 Management Measure Specifications</a><br>Effective date: Jan. 1, 2023  | FMP Amend 30: Extension of the Primary Tier Sablefish Season to the end of the year. Could impact the amount of gear switching in the catch share fishery.<br>Regulatory Action: Authorized block area closures tool to for groundfish mitigation purposes and to control bycatch in midwater trawl (shoreside and at-seas sectors) and bottom trawl off Washington.  |
| Final Council Action: March 2023. Effective date: January 1, 2024.   | FMP Amendment 32: Non-trawl area management measures, including modification of the Non-Trawl RCA boundaries and allowing IFQ gear switching vessels to fish in the non-trawl rockfish conservation area using stationary vertical jig gear or groundfish troll gear.<br><br>Modifications also applied to open access and limited entry fixed gear (LEFG) and changes were made to various conservation areas and associated provisions (e.g. use of live bait and transit rules).                               |

#### 1.4.2 Catch Share Program Council Actions Not Yet Implemented in Regulation.

These actions have been taken but their impacts will be covered in the next review process. The effects of regulations implemented in 2023 or later will not show up in the main economic data for the current review (EDC data).



Table 4. Catch share program related actions taken by the Council regulations will not be effective until the start of 2023 or later.

| Action Date   | Action Description   |
|---|--|
| <p><a href="#">Final Council Action</a>: Mar., 2022<br/>Effective Date: Jan. 17, 2023</p>                                       | <p>Pacific whiting utilization in the at-sea sectors</p> <ol style="list-style-type: none"> <li>a. Move the whiting season start date from May 15th to May 1st.</li> <li>b. Move all administrative deadlines associated with the season start date to 45 days prior to May 1st.</li> <li>c. Allow a processing vessel to be registered to a MS permit and a CP permit in the same calendar year. No limit on the number of times a vessel could change processing permits in a year.</li> <li>d. Remove MS processor obligation for catcher vessels.</li> </ol> <p>Remove MS processor cap of 45 percent.</p> |
| <p><a href="#">Final Council Action</a>: Various, including in 2014, 2016, and 2017. Regs became effective January 1, 2024.</p> | <p>Electronic Monitoring: See Item 9 in Table 3.</p>   |
| <p>Final Council Action April 2024<br/>Not yet approved by NMFS</p>   | <p>Limit gear switching.</p>   |
| <p>Final Council Action June 2024<br/>Not yet approved by NMFS</p>  | <p>Merged shortspine thornyhead north and south into a single coastwide ACL and trawl allocation.</p>  |

## 2.0 PROGRAM PERFORMANCE AND REVIEW

Each of the highest level subsections of this section correspond to the subject matter sections recommended for focus in Section VI, Describing and Analyzing Program Performance, in the NMFS Catch Share Policy Guidelines ([NMFSP1 01-121-01](#)).

### 2.1 Evaluation of Goals and Objectives

The primary goal of a review is to assess progress in meeting goals and objectives of the program and MSA. The NMFS policy states that the goals and objectives to be covered in the review include those of the program, the groundfish FMP, the Catch Share Policy,<sup>2</sup> and the MSA, but the primary focus should be on those identified in the implementing FMP amendment (A-20).

Many of the goals and objectives from these different sources are overlapping. The catch share program was expected to help the Council address objectives related to National Standards (NS) 4 (fair and equitable allocation), 5 (consider efficiency), 6 (take into account variations and contingencies), 8 (take communities into account), 9 (minimize bycatch and bycatch mortality), and 10 (promote safety). With respect to the FMP, it was expected to affect achievement of Groundfish FMP Goals 2 (maximize the value of the resource as a whole) and 3 (achieve maximum biological yield) through impacts related to Objectives 6 (achieve greatest net benefit), 9 (reduce wastage), 11 (minimize bycatch), 12 (equitable sharing of the conservation burden), 13 (minimize gear conflicts), and 14 (accomplish changes with minimum disruption). Objectives of A-20, trawl

<sup>2</sup> NMFS’s goals for [its catch share] policy are: to help reduce administrative or organizational impediments to the consideration and adoption of catch shares in appropriate fisheries; to inform and educate stakeholders of the different options and capabilities of catch share programs; and to help organize collaborative efforts with interested Councils, states, communities, fishermen and other fishery stakeholders on the design and implementation of catch share programs. ([NMFS Catch Share Policy](#), p. 3)

catch share program, and their relation to the MSA and FMP goals and objectives are provided in Table 5.

Amendment 20 included objectives and guiding principles. The difference between the two is that an objective was a motivating reason for implementing the catch share program. A guiding principle was a factor that needed to be taken into account while developing the program. For example, there were already adequate mechanisms in place taking into account the biological structure of stocks and ensure allowable harvests were not exceeded. They were not reasons that motivated the need for a catch share program but during the program design process it was highly important to take into account the impacts of the program on these factors. Similarly, the costs of administering a program needed to be taken into account but administering a program was not a motivating objective for the development of the program.

Table 5. Goal and Objectives from A-20 and their consistency with management objectives of the groundfish FMP and MSA.

| Amendment 20 Goal/Objective  | Related <u>FMP Management Goals (G) &amp; Objectives (Obj)<sup>a</sup></u> and MSA National Standard (NS)s  |
|--|---|
| <b>Amendment 20 Goal: Create and implement a capacity reduction program that achieves the following:</b> |   |
| Increases net economic benefits.   | G-2 - Economics. Maximize value.<br>Obj-6. Maximize net benefits (within constraints).<br>NS-1. Achieve OY....<br>NS-5. Consider efficiency in utilization....<br>NS-7. Minimize costs; avoid duplication.  |
| Creates individual economic stability.   | Obj-2. Stewardship responsibilities, ... stable, and profitable fishery.<br>Obj-14. Least disruption.<br>Obj-15. Avoid unnecessary small entity impacts.<br>NS-6. Allow for variations and contingencies.   |
| Provides for full utilization of the trawl sector allocation.  | G-3 – Utilization. Maximize yield ....<br>Obj-9. Full utilization.<br>NS-1. Achieve OY....<br>NS-9. Minimize bycatch, and bycatch mortality.  |
| Considers environmental impacts.   | G-1 - Conservation.<br>Obj-3. Rebuild OFS taking into account ...marine ecosystem.<br>Obj-4. Control impacts to non-groundfish species (when appropriate).<br>Obj-5. EFH conservation and enhancement.<br>NS-1. ... prevent overfishing.  |
| Achieves individual accountability of catch and bycatch.   | Obj-1. Maintain an information flow<br>NS-1. Achieve OY and prevent overfishing.<br>NS-2. Use best available scientific information.<br>NS-9. Minimize bycatch, and bycatch mortality.  |
| <b>Amendment 20 Objectives:</b>  |   |
| 1. Provide a mechanism for total catch accounting.   | G-1 - Conservation.<br>Obj-1. Maintain an information flow<br>Obj-11. Monitor and reduce bycatch/bycatch mortality and regulatory and economic discards.<br>NS-2. Use best available scientific information<br>NS-9. Minimize bycatch, and bycatch mortality.   |
| 2. Provide for a viable, profitable, and efficient groundfish fishery.                                   | G-2 - Economics. Maximize value.<br>Obj-2. Stewardship responsibilities, harvest capacity reduction, and a diverse, stable, and profitable fishery.<br>Obj-6. Maximize net benefits (within constraints).<br>NS-5. Consider efficiency in utilization....<br>NS-7. Minimize costs; avoid duplication. |

| <b>Amendment 20 Goal/Objective</b>   | <b>Related <u>FMP Management Goals (G) &amp; Objectives (Obj)</u><sup>a</sup> and MSA National Standard (NS)s</b>  |
|--|--|
| 3. Promote practices that reduce bycatch and discard mortality and minimize ecological impacts.  | <p>G-1 - Conservation.</p> <p>G-3 – Utilization. Maximize yield ....</p> <p>Obj-4. Control impacts to non-groundfish species (when appropriate).</p> <p>Obj-5. EFH conservation and enhancement.</p> <p>Obj-9. Full utilization.</p> <p>Obj-11. Monitor and reduce bycatch/bycatch mortality and regulatory and economic discards.</p> <p>NS-1. ... prevent overfishing.</p> <p>NS-3. Manage stocks as a unit.</p> <p>NS-4. Ensure that allocations ..., promote conservation....</p> <p>NS-9. Minimize bycatch, and bycatch mortality.</p>                              |
| 4. Increase operational flexibility.   | <p>G-2 - Economics. Maximize value.</p> <p>G-3 – Utilization. ...promote year-round opportunity.</p> <p>Obj-6. Maximize net benefits (within constraints).</p> <p>Obj-7. Promote year-round marketing (where appropriate).</p> <p>Obj-17. Promote safety at-sea.</p> <p>NS-1. Achieve OY...</p> <p>NS-5. Consider efficiency in utilization....</p> <p>NS-6. Allow for variations and contingencies.</p> <p>NS-10. Promote safety of human life at-sea.</p>  |
| 5. Minimize adverse effects from an individual fishing quota (IFQ) program on fishing communities and other fisheries to the extent practical.               | <p>Obj-3. Rebuild OFS taking into account community needs, ...</p> <p>Obj-7. Promote year-round marketing (where appropriate).</p> <p>Obj-12. Equitable impacts</p> <p>Obj-14. Least disruption.</p> <p>Obj-15. Avoid unnecessary small entity impacts.</p> <p>Obj-16. Maintain fishing community participation and minimize impacts.</p> <p>NS-4. Ensure that allocations are fair and equitable, ... and prevent excessive shares.</p> <p>NS-8. Consider fishing communities to provide for their sustained participation and to minimize adverse economic impacts</p> |
| 6. Promote measurable economic and employment benefits through the seafood catching, processing, distribution elements, and support sectors of the industry. | <p>G-3 – Utilization. Maximize yield and promote year-round opportunity.</p> <p>Obj-2. Stewardship responsibilities, harvest capacity reduction, and a diverse, stable, and profitable fishery.</p> <p>NS-5. Consider efficiency in utilization....</p> <p>NS-7. Minimize costs; avoid duplication.</p>  |
| 7. Provide quality product for the consumer.   | <p>G-2 - Economics. Maximize value.</p> <p>Obj-7. Promote year-round marketing (where appropriate).</p> <p>Obj-6. Maximize net benefits (within constraints)..</p>   |
| 8. Increase safety in the fishery.   | <p>Obj-17. Promote safety at-sea.</p> <p>NS-10. Promote safety of human life at-sea.</p>   |
| <b>Amendment 20 Constraints and Guiding Principles</b>   |  |
| 1. Take into account the biological structure of the stocks including, but not limited to, populations and genetics.   | <p>G-1 - Conservation.</p> <p>NS-2. Use best available scientific information.</p> <p>NS-3. Manage stocks as a unit.</p> <p>NS-4. Ensure that allocations ..., promote conservation, ....</p>  |

| Amendment 20 Goal/Objective   | Related <u>FMP Management Goals (G) &amp; Objectives (Obj)<sup>a</sup></u> and MSA National Standard (NS)s  |
|---|---|
| 2. Take into account the need to ensure that the total optimum yields (OYs) and allowable biological catch (ABC) are not exceeded.  | G-1 - Conservation.<br>Obj-1. Maintain an information flow<br>NS-1. Achieve OY and prevent overfishing.   |
| 3. Minimize negative impacts resulting from localized concentrations of fishing effort.   | G-1 - Conservation.<br>Obj-5. EFH conservation and enhancement.<br>Obj-12. Equitable impacts<br>Obj-13. Minimize gear conflicts.<br>Obj-14. Least disruption.<br>NS-1. Achieve OY and prevent overfishing.<br>NS-4. Ensure that allocations ..., promote conservation....   |
| 4. Account for total groundfish mortality.  | G-1 - Conservation.<br>Obj-1. Maintain an information flow<br>Obj-11. Monitor and reduce bycatch/bycatch mortality and regulatory and economic discards.<br>NS-1. Achieve OY and prevent overfishing.<br>NS-2. Use best available scientific information.   |
| 5. Avoid provisions where the primary intent is a change in marketing power balance between harvesting and processing sectors.  | Obj-12. Equitable impacts<br>Obj-15. Avoid unnecessary small entity impacts.<br>NS-4. Ensure that allocations are fair and equitable, ....  |
| 6. Avoid excessive quota concentration.   | Obj-12. Equitable impacts<br>Obj-16. Maintain fishing community participation and minimize impacts.<br>NS-4. Ensure that allocations are fair and equitable, ... and prevent excessive shares.<br>NS-5. Consider efficiency in utilization.<br>NS-8. Consider fishing communities to provide for their sustained participation and to minimize adverse economic impacts |
| 7. Provide efficient and effective monitoring and enforcement.  | G-1 - Conservation.<br>G-2 - Economics. Maximize value.<br>Obj-6. Maximize net benefits (within constraints).<br>NS-2. Use best available scientific information.<br>NS-4. Ensure that allocations are fair and equitable, ....<br>NS-5. Consider efficiency in utilization...<br>NS-7. Minimize costs; avoid duplication.  |
| 8. Design a responsive mechanism for program review, evaluation, and modification.  | NS-6. Allow for variations and contingencies.   |
| 9. Take into account the management and administrative costs of implementing and overseeing the IFQ or co-op program and complementary catch monitoring programs, as well as the limited state and Federal resources available. | G-2 - Economics. Maximize value.<br>Obj-6. Maximize net benefits (within constraints).<br>NS-5. Consider efficiency in utilization...<br>NS-7. Minimize costs; avoid duplication.   |

<sup>a</sup> FMP Objectives 8 and 10 are not included here. Objective 8 emphasizes of use gear-restrictions to reduce regulatory and economic discards. Objective 10 emphasizes management by spp/spp-groups & gear. The objective of the catch share program is to reduce regulatory restrictions such as gear restrictions. This is evidenced by the gear-rule, which sought to eliminate all unnecessary regulatory restrictions. The program supports but does not further management by spp/spp-groups.

While drafting the following subsections, reference back to Table 5 and the cross-referenced FMP G&O and NSs to think about other important context or factors that might be included.

For each section

Include summary bullets at the start of the section.

Generally, provide high level descriptive and data summaries that suffice for the topic.

Reference to the previous review for discussions of data and methods.

Consider whether any of the actions since the last review might have had a substantial impact on the particular category (if so, very briefly identify that, include those actions in Section 2.1.9, and cross reference to them).

## 2.1.1 Environmental Outcomes

A-20 Goal: Create and implement a capacity reduction program that considers environmental impacts.

Obj 1. Provide a mechanism for total catch accounting.

Obj 3. Promote practices that reduce bycatch and discard mortality and minimize ecological impacts.

Constraint and Guiding Principle (C&GP) 1. Take into account the biological structure of the stocks including, but not limited to, populations and genetics.

C&GP 2. Take into account the need to ensure that the total optimum yields (OYs) and allowable biological catch (ABC) are not exceeded.

C&GP 3. Minimize negative impacts resulting from localized concentrations of fishing effort.

C&GP 4. Account for total groundfish mortality.

### 2.1.1(a) Groundfish Conservation

One of the primary expectations for Amendment 20 was that it would reduce the incidental catch of overfished groundfish species to assist in rebuilding these stocks. The West Coast groundfish fishery is a multi-species fishery that includes more than 100 species of fish of varying productivity levels. The low productivity associated with some species, especially rockfish species from the genus *Sebastes*, can constrain catches of target species. Amendment 20 increased the incentive for individual vessels to do “everything possible to avoid take of species for which there are conservation concerns, such as overfished species” (Amendment 20 EIS). The catch share program did this by making fishermen accountable for their entire catch of species covered by the program (not just landings) and by implementing 100 percent observer coverage on the trips. Since 2014, the Council has been developing a policy that would allow the use of electronic monitoring in place of observers. Regulations implementing EM programs in the trawl catch share program were effective January 1, 2024.

### **2.1.1(a)(1) Total Catch Accounting and Adherence to Sector Allocations**

Potentially include here.

- Brief qualitative discussion on EM and the use of EM to assure total catch accounting as compared to observers (draw on and cross reference to 2.1.9(c)).
- Time series on trawl allocations and overages (including set-asides for at-sea). Maybe note whether or not there have been any instances of overfishing in a year in which there was a trawl overage.

### **2.1.1(a)(2) Groundfish Bycatch and Discard Mortality**

Potentially include here.

- Update discard time series (2017 Review Figure 85, Figure 86, and Figure 87). Include mortality estimates. Minimize text (i.e., provide substantially less textual interpretation as compared to the 2017 Review, except for anything that stands out as a problem or improvement relative to previous results).

### **2.1.1(a)(3) Overfished Groundfish Species and Pacific Halibut**

Potentially include here.

- Table summarizing the status of overfished species over time (2017 Review Table 136). Minimize text. Omit  $B/B_{msy}$  figures from 2017 Review (include figures Figures 101, 102 and 103).
- Link to the intersection allocation review figures/tables and summarize: Figure showing total halibut IFQ sector mortality (2017 Review Figure 97 but add the total IBQ allocation for each year). Produce a separate figure or table to evaluate utilization of the 10 mt halibut allocation for at-sea and southern harvest).

This section provides summary information on overfished species and the one prohibited species that is managed with catch shares (Pacific halibut). The Council and NMFS depend upon results from scientific stock assessments to determine whether a harvest rate on a groundfish stock is too high (overfishing) or the population size for that stock is too low (overfished).

## **2.1.1(b) Other Environmental and Ecosystem Impacts**

The resilience of marine ecosystems and coastal communities depends on healthy populations of all marine species, including protected species such as marine mammals, sea turtles, marine birds, and endangered fish species. Protected fish species captured incidentally by the West Coast groundfish fisheries include several species of Pacific salmon, green sturgeon, and eulachon. Further, habitat affects the survival and productivity of all marine fish life-stages through provision of shelter, food, and spawning areas. Human activities, both on the water and land-based, can negatively affect the quality and quantity of marine habitat. Marine habitats may be affected by fishermen adjusting fishing effort (including where they fish their fishing methods) in response to the catch share program and the broader regulatory context. Fuel use (production of greenhouse gases) is another issue of environmental concern to fisheries because of its negative impacts on ocean ecosystems and coastal communities.

### **2.1.1(b)(1) Protected and Prohibited Species (Except Pacific Halibut)**

Potentially include here (note ESA status on the following, as appropriate).

- Consider including a figure on salmon bycatch (2017 Review Table 138 – total bycatch).
- For green sturgeon and eulachon update and include summary bullets from the 2017 Review (see page 396 of that review). If it seems helpful, include updates of the related data tables.
- For marine mammals, seabirds, and turtles, provide references to the most recent biennial specifications analyses or other assessment documents. Overall, these resources are covered in other Council processes and need only be touched on very lightly here – perhaps only with cross references. However, if the other reports and data sources show there are any trends that may possibly have been influenced by catch share policy (or if there are trends that might require a change to the catch share program), then display of the data indicating a possible relationship would likely be warranted.

This section covers prohibited species with the exception of Pacific halibut, which is managed with IBQ and covered in Section 2.1.1(a)(3).

The groundfish fishery operates under specific bycatch guidelines for salmon. The threshold for the non-whiting trawl sector<sup>3</sup> as a whole is 5,500 Chinook salmon and 560 coho salmon. There is the 11,000 chinook guideline for whiting (all 3 non-tribal and tribal sectors) and a 474 coho guideline. Plus, there is the 3500 Chinook reserve available to all sectors.

### **2.1.1(b)(2) Habitat Impacts**

Potentially include here: Summary of projected impacts of RCA re-openings (largely possible because of the catch share program), gear rule, and gear-switching analysis. This might be entirely a brief qualitative description with cross references to source documents.

### **2.1.1(b)(3) Changes in Magnitude and Distribution of Effort**

Potentially include here.

- Habitat impacts—previously a total bottom trawl haul analysis was conducted (2017 Review, Figure 105). This analysis showed a reduction in trawl hauls and hours towed. However, a reduction in total hauls can also be associated with declining allocations or attainment. Also influencing might be that prior to trawl catch shares, vessels could continue to fish after reaching the trip limit for a particular species (discarding amounts caught above the limit). Under trawl catch share, instead of discarding, vessels reaching the limit of their quota for a species have to stop fishing—potentially resulting in higher average catch per hour towed as compared to the trip limit system. There may also have been other gear changes and changes in fishing practices that could impact these results (particularly in context of the gear rule, which substantially reduced restrictions on gear configuration). Consider whether it might be easy to put together total number of hauls per 1,000 mt landed (or better, total tow hours per 1,000 mt landed). This might be more of an indicator of changes to the rate of habitat impacts independent of changing levels of harvest. Conduct such an analysis for north and south of 40° 10' N. lat.

Bottom trawl gear is more likely to impact bottom habitat than other trawl gears. The 2017 review showed that bottom trawl effort across gears dropped significantly with catch share program implementation; from an average of 16,095 (2002 to 2010) to 11,076 (2011 to 2014). However, some of that reduction may have been due to a reduction in trawl allocations and allocation attainment. Here we look at changes in the hours towed per unit of landings to

<sup>3</sup> Bottom trawl, non-whiting midwater trawl, IFQ-fixed gear, LE and OA fixed gear fisheries, and select recreational fisheries outside of the primary seasons are included within this threshold.



indicate if there has been a change in the rate of habitat impact per unit of landings. A change in the rate alone is not conclusive because the distribution of effort both latitudinally and across depths are factors that affect the degree of impact. Additionally, the changes in response to the Gear Rules may have some impact on gear interaction with habitat.

#### **2.1.1(b)(4) Lost Gear**

Potentially include here.

- WCGOP records of observed hauls losing and recovering gear. However, unless something has changed, it is likely not going to be possible to draw any conclusions on this point. If that is the case, maybe just have this section to note that fact and then don't include it in previous review documents. Or, provide an update of the lost gear data previously provided.

Lost gear can have impacts on fish and habitat. Lost gear can keep “ghost” fishing, as when a lost pot attracts fish that then die and become bait, entrapping more fish or entangling protected species. Lost gear can also damage habitat when its movement through waves and currents disturbs the bottom. Because of the absence of adequate pre-catch share records, it was not possible to conclude anything about the impact of the catch share program on lost gear. For that reason, this review will not go further into the lost gear issue and it will not be addressed in future reviews, unless there are substantial changes in conditions.

#### **2.1.1(b)(5) Fuel Use**

Potentially include here.

- Fuel use per mt harvested (like the 2017 Review Figure 108, but measured as a rate of use). Note that in Figure 108, the fuel use by the bottom trawl vessels declined substantially relative to pre-catch shares, but so did catch. What happened to overall rate?

Changes in fisheries management can have impacts on the larger environment as a whole. . The catch share program provides the incentives for more efficient use of resources. Additionally, the recently reduced restrictions on trawl gear configuration (the Gear Rule) may have provided even more opportunity to gain fuel efficiency. At the same time fuel use may also be influenced by increases or decreases in total harvest (independent of the efficiency of that use) such that total fuel use alone is not an indicator of fuel use efficiency. Here we look at fuel use per unit of landings.

### **2.1.2 Net Benefit and Related Outcomes [Refine Text Flow]**

This section focuses on an overall assessment of net benefits to the nation. The assessment relates to the following Amendment 20 goals and objectives.

A-20 Goal: Create and implement a capacity rationalization plan that increases net economic benefits...

Obj 2. Provide for a viable, profitable, and efficient groundfish fishery.

C&GP 7. Provide efficient and effective monitoring and enforcement.

C&GP 9. Take into account the management and administrative costs of implementing and overseeing the IFQ or co-op program and complementary catch monitoring programs, as well as the limited state and Federal resources available.

Section 2.1.2(a)(1) provides estimates of annual net economic benefits associated with trawl sector activity as total cost net revenue (TCNR) and variable cost net revenue (VCNR) based on EDC data. Some important factors related to changes in net economic benefits are also covered in subsequent subsections: efficiency (Section 2.1.2(a)(2)), productivity (Section 2.1.2(a)(3)), and product values (Section 2.1.2(a)(4)). Quota values are another indicator of the net value generated by the fishery, and are discussed in Section 2.1.2(a)(5). Overall national benefits from the sector activity are reduced by the cost of governance (Section 2.1.2(b)).

Some other factors related to net benefits outcomes are considered in other sections: sector consolidation, along with the issue of excessive shares, will be addressed in Sections 2.1.5 and 2.6, and degree of utilization of the resource is covered in Section 2.1.3.

### 2.1.2(a) Net Benefit from Sector Activity

For this section of this review, where possible, catcher vessels will be divided into two mutually exclusive categories, illustrated in Figure 1. If the vessel targeted Pacific whiting (defined as taking at least one trip in a year in which 50 percent or more of its total weight is composed of Pacific whiting), it is categorized as a “whiting vessel.” If it did not, it is categorized as a “non-whiting vessel.” The categorization of a vessel may change from year to year. Where relevant, this report may also further break down the activities in which these two categories of vessels participate (Figure 1).

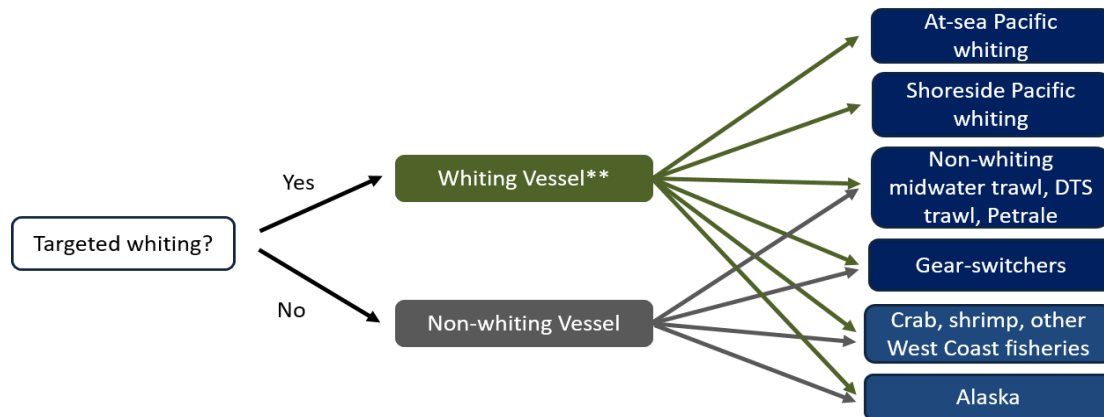


Figure 1. Economic performance section classification of catch share catcher vessels.

\*\*Does not include vessels that only caught whiting as bycatch.

#### 2.1.2(a)(1) Changes in Net Economic Benefits (Net Revenue)

Potentially include here.

- Sector totals of net revenue (total/variable cost net revenue) estimates from the EDC for each segment of the fleet and shoreside processors (including first receivers) and QS Owners. Trend over time. Update Table 1 from the 2017 Review. Consider a graphical representation. Add QS owners that were not previously included.

#### 2.1.2(a)(2) Changes in Efficiency

Potentially include here.

- Efficiency calculated for each sector and for whiting and non-whiting vessels and processors (update 2017 Review, Table 14).

Efficiency can be calculated as net revenue (revenue minus the costs of fishing and/or production) as a percentage of revenue. This measure describes the percentage of revenue left over after all costs are paid.

### **2.1.2(a)(3) Changes in Productivity**

Potentially include here.

- Reproduce and update the MFP index, assuming the required data are available from the EDC (update 2017 Review, Table 10 and 11).

Productivity (the relationship between the quantity of fish produced and the amount of inputs used to harvest fish) is an important metric for evaluating the performance of commercial fishing fleets, and it can be used to understand the drivers of changing profitability. Changes in productivity can be estimated using, the Lowe Multifactor Productivity Index (Lowe Index). The Lowe Index is used to estimate changes in harvesting productivity over time relative to a baseline reference period, referred to as the “multi-factor productivity” (MFP) index. Because the Lowe Index can be applied in a consistent manner to all catch share programs in the United States, including those with multiple outputs (species), NMFS identified it as a metric for the evaluation of catch share programs (Thunberg et al. 2015; Walden et al. 2014).

### **2.1.2(a)(4) Product Value**

Potentially include here.

- Annual time series of exvessel prices (update 2017 Review, Table A.1, but include only IFQ species and species groups along with at-sea whiting).
- Time series of average buyer markup by species and sector (2017 Review, Table 20).
- Time series of exprocessor prices by species and product form—for each sector (update 2017 Review, Table 17, Table 18, Table 19).

Exvessel prices are related to gross vessel revenue and the cost of the raw fish input for processors. Average markup and exprocessor prices are related to the revenue earned by fish buyers/processors. These values are important elements that influence net benefits from the fishery.

### **2.1.2(a)(5) Quota Market Performance and Values**

Potentially include here.

- QS table with counts of QS transactions and total amount of QS transferred by year. Consider including prices—aggregating as needed across time periods as needed to preserve confidentiality.
- QP tables with types of transfers (update 2017 Review, Table 21) and prices and number of transactions (update 2017 Review, Table 23).
- Ratio of QP prices to ex-vessel prices (update 2017 Review, Table 24).
- Consider some graphical representations.

The present value of economic resources saved as a result of the QS program should be generally reflected in the aggregate value of the QS, assuming a well-functioning market. Amounts paid for QS are expected to reflect the profits that are in excess of what is needed to support profitable fishing operations. As vessel profitability increases (excluding quota expenses) QS prices would be expected to increase because the amount owners are willing to pay for the profit opportunity increases. In this fashion, the value of the QS draws profits out of the fishery and prevents them from being expended on capacity increases that might occur if there were a race for fish (as was the case for the at-sea mothership fishery prior to the catch share program) or opportunity for

new vessels to enter the fishery (as was the case for the shoreside fishery prior to the catch share program, when there was a surplus of trawl permits available).

QS trading has been sparse. However, it is expected that there would be a correlation between QS prices and QP prices.

### **2.1.2(b) Costs of Governance**

Potentially include here.

- Summarize in a few paragraphs and cross reference to the recent cost study projects.
- Include one table that has total cost of each segment of the trawl catch share program (update 2017 Review Table 146 and add a row for totals.).

In the 2017 review, the topics covered in this section were characterized as aspects of “Program Performance.” See section 2.7 for a brief description of what is included in cost recovery

NMFS provides its estimate of direct program costs (DPC)—the costs recoverable from industry. The DPC as estimated by NMFS are likely an underestimate of trawl catch share program DPC. When the cost recovery program began in 2014, NMFS recovered only the costs of employees’ time (salary and benefits) spent working on the program. Since FY2023, NMFS has included other categories of incremental costs such as travel, supplies, and equipment in the annual fee calculation.. No costs resulting from duties performed by the states of Washington, Oregon, or California in support of the groundfish trawl fishery are included in the calculation of DPC.

### **2.1.3 Full Utilization (Allocation Attainment)**

A-20 Goal: Create and implement a capacity rationalization plan that ...provides for full utilization of the trawl sector allocation.

Potentially include here.

- Time series on percent attainment of trawl allocation (from the gear-switching analysis). (update 2017 Review, Table 14).

The degree to which the trawl allocations are utilized and exvessel prices and values impact the net benefits generated by the fishery (Section 2.1.2(a)(1)), economic outcomes for individual entities (Section 2.1.4), economic and social benefits for communities (Section 2.1.6(a)), and product available for consumers (Section 2.1.6(d)).

### **2.1.4 Individual Economic Outcomes**

A-20 Goal: Create and implement a capacity rationalization plan that ...creates individual economic stability

Obj 2. Provide for a viable, profitable, and efficient groundfish fishery.

Obj 4. Increase operational flexibility.

Individual-level measures of net revenue were developed as indicators of individual viability and profitability with data collected by the EDC Program. Total cost net revenue (“net revenue”) is

calculated as total revenue minus variable and fixed costs. Net revenue is calculated at the individual vessel (or processor) level, and summary statistics (e.g., means, standard deviations, or medians) are calculated to describe the “average” vessel (or processor). Total cost net revenue is the most appropriate representation of accounting (cash flow) profitability that can be calculated using the available data. However, total cost net revenue is affected by large, fixed-cost expenditures, such as a new engine, that are incurred infrequently. Thus, total cost net revenue averaged over entities is best interpreted over a multiyear period due to this high variability across individual years. In this section, total cost net revenue is used as an indicator of accounting profitability, and variable cost net revenue (total revenue minus variable costs) is provided as an indicator of annual operating profits. All the values presented in the section are from participation in the catch share program only, although entities may participate in other fisheries.

#### **2.1.4(a) Catcher Vessels**

Potentially include here.

- Catcher Vessels – for whiting vessels (shoreside and at-sea) and nonwhiting vessels – (also, consider whether it is possible to separate nonwhiting bottom trawl only from other nonwhiting vessels (nonwhiting midwater trawl and combo vessels that do both nonwhiting midwater trawl and bottom trawl).
  - Variable and total cost net revenue figures from EDC Program (update 2017 Review, Figure 13).
  - Percent of vessels with negative net revenue (update 2017 Review, Figure 14).

#### **2.1.4(b) Motherships**

Potentially include here.

- Motherships variable and total cost net revenue figures from EDC Program (update 2017 Review, Figure 17).

#### **2.1.4(c) Catcher Processors**

Potentially include here.

- Catcher-Processors variable and total cost net revenue figures from EDC Program (update 2017 Review, Figure 18).

#### **2.1.4(d) First Receivers and Shoreside Processors**

Potentially include here.

- First Receivers and Shorebased Processor variable and total cost net revenue figures from EDC Program (update 2017 Review, Figure 19).

#### **2.1.4(e) QS Owners and CHA Owners**

Potentially include here.

- QS Owners—profit results or other outcomes available from the new QS owner data collection.
- CHA Owners—The CHA owners own trawl limited entry permits. Does the EDC have any data on these entities that is comparable to the data for QS owners and might be summarized here?

### **2.1.5 Equity Outcomes and Excessive Concentration**

C&GP 5. Avoid provisions where the primary intent is a change in marketing power balance between harvesting and processing sectors.

**C&GP 6. Avoid excessive quota concentration.**

Potentially include here.

- Fleet/Buyer consolidation: Figure showing over time the numbers of active catcher vessels (groups: at-sea whiting, shoreside whiting, midwater nonwhiting, bottom trawl, total shoreside trawl (all strategies), total shoreside and at-sea trawl, and gear-switching), shoreside processors, mothership processors, and CPs by year.
- Harvest Concentration within the Fleet/Buyers: For each group of vessels, show trends in distribution of revenue from their groundfish activities. For example, the percentage of total revenue taken/bought by each quartile of vessels/buyers. Gini coefficients might be another approach to consider (see Table 4 of the 2017 review).
- Count of the number of companies owning each category of vessels/buyers (or selected categories).
- Consider of numbers of companies owning selected quota (e.g. sablefish, Dover, widow, yellowtail, Petrale, whiting, Pacific halibut (IBQ) and all non-whiting combined) and CHAs, with displays indicating the degree to which ownership is concentrated—e.g. total quota of each type owned by quartile over time.
- Counts of number of companies owning CP permits with displays indicating the degree of concentration.
- Note the geographic consolidation is covered under communities.

Excessive concentration is an equity issue, impacts distribution of benefits among communities, and can constrain the net economic value generated from the fishery. Distribution of benefits across communities is addressed in Section 2.1.6. Accumulation limits are used to take into account the effect excess concentration might have on efficiency and net economic value. The accumulation limits for this fishery are set at levels that are likely below those needed to ensure that oligopolistic/oligopsonistic control will not constrain net economic value (control of the resource by just a few sellers/buyers). However, the limits might also be so low as to constrain the operational efficiency of individual operations. The accumulation limit levels were set to achieve multiple objectives related to the distribution of the resource (including consideration of equity, communities, and efficiency). This section focuses only on indicators of the resultant distribution and how they have changed since the last review. Section 2.1.6 includes information on the distribution of quota across communities. See Section 2.6 for further discussion of the accumulation limit caps as a limit on consolidation.

**2.1.6 Community and Other Outcomes**

- Obj. 5. Minimize adverse effects from an individual fishing quota (IFQ) program on fishing communities and other fisheries to the extent practical.
- Obj. 6. Promote measurable economic and employment benefits through the seafood catching, processing, distribution elements, and support sectors of the industry.
- Obj. 7. Provide quality product for the consumer.
- Obj 8. Increase safety in the fishery

**2.1.6(a) Communities**

A more streamlined document might include only sections:

- 2.1.6(a)(1) Distribution of Landings by Region (Weight and Revenue)
- 2.1.6(a)(4) QS and CHA Ownership by Region
- 2.1.6(a)(5) Income Impacts and Total Employment by Region (maybe include the dependence table from next section).

If a more streamlined approach is taken, counts of vessels and first receivers should be provided somewhere – maybe in the 2.1.4 subsections.

### **2.1.6(a)(1) Distribution of Landings by Region (Weight and Revenue)**

Potentially include here.

- Distribution of shoreside landings (mt and revenue) among states (update 2017 Review Figure 62 and 63).
- Distribution of shoreside landings revenue among ports—map display (update 2017 Review Figure 64)
- Distribution of shoreside landings (mt and revenue) by species groups and among ports (update and expand 2017 Review Tables 91 and 97 with 2016-2020 and 2021-2023 (or 2016-2023<sup>4</sup>) averages (consider if there is a need to adjust time periods for COVID effects). Split table. In one table include values and in the other percentage change from the previous time period.
- Distribution of gear-switched landing (mt and revenue) by port (update 2017 Review Table 98 with additional time period).
- Gini coefficients for distribution of shoreside trawl revenue over ports (update 2017 Review Table 96).

### **2.1.6(a)(2) Vessel Participation by Region**

Potentially include here.

- Numbers of active catcher vessels (shoreside trawl, shoreside gear-switching, and mothership sectors) making groundfish landings/deliveries by region, over time (update 2017 Review Table 99 (including splitting out gear-switching vessels) and Table 105 with more recent time period(s)).

### **2.1.6(a)(3) First Receiver/Processor Participation by Region**

Potentially include here.

- Number of unique buyers purchasing trawl-caught groundfish by state (update 2017 Review Figure 65).
- Count of first receivers receiving groundfish by fishery sector, port area, and time period (update 2017 Review Table 101).
- Figure showing numbers of active first receivers and processors receive landings (shoreside whiting, midwater nonwhiting, bottom trawl, and gear-switching), by region, over time. (update 2017 Review Figure 66).

### **2.1.6(a)(4) QS and CHA Ownership by Region**

Potentially include here.

- Distribution of QS based on owner residence in 2023 (update 2017 Review Table 107, add state totals, keep a version of the table with 2017 data). Also, to allow convenient comparison, create a new table for 2017 and 2023 that has just the last 4 columns from Table 107 (port totals and ranking).
- Information on who the QS owners are (new QS owner survey—types/characteristics of owners). Consider relationship between types of owners and roles/connection to fishing communities. Is there geographic information from the new QS owners survey that might be brought to bear. Consult with EDC.
- Distribution of CHAs among regions based on permit owner’s reported residence.

### **2.1.6(a)(5) Income Impacts and Total Employment by Region**

Potentially include here.

- Regional I/O Pac income impact estimates for the catch share program landings and coastwide totals.<sup>5</sup> Include 5 lines per region (a total and separate estimates for whiting and nonwhiting catcher vessels,

<sup>4</sup> The longer time period may be helpful to create sufficient confidentiality. If the long time period is used, presence absence information might be used to indicate changes for the 2021-2013 period.

<sup>5</sup> Use regional level I/O PAC runs for the individual areas and coastwide I/O PAC runs for the coastwide totals (do not sum the regions to get the coastwide total).

motherships and catcher processors). New table (the 2017 Review provided only coastwide totals, in Table 84).

- Aggregate annual regional and coastwide estimates of direct and indirect employment related to the catch share fishery generated using I/O Pac – use same table format as for the income impact estimates. New table (the 2017 Review provided only coastwide totals, in Table 84).

### **2.1.6(a)(6) Dependence, Social Vulnerability, and Engagement by Region**

Potentially include here.

- Community dependence: regional I/O Pac income impact estimates for the catch share program landings as a percentage of I/O PAC income impact estimates for all fish landed into the region. New table.
- Community social vulnerability. Update 2017 Review Table 117 with current vulnerability information and list of highly engaged communities (social indicators developed by Jepson and Colburn, 2013)
- Community engagement update 2017 Review Table 116 and Figure 67 (but include communities that are highly engaged in at least one year), if new study is available or can be conducted.

### **2.1.6(a)(7) Infrastructure**

The 2017 Review provided an assessment of changes to infrastructure based on social science interview results and a study that was conducted for that review (Section 3.2.2(c) and Appendix D). New interviews and studies have not been conducted. Changes to infrastructure specifically linked to catch share programs around the world have been reported in academic literature. In the mid-Atlantic region, McCay and Brandt (2001) reported impacts on industry supply businesses as fewer boats could not support ancillary businesses. Overviews of other IFQ fisheries around the world (Copes 1996; Copes and Charles 2004) report that as shorebased resources concentrate in locations where larger companies thrive, smaller companies in smaller communities are more likely to fail. If the number of fishers declines to such an extent that infrastructure collapses, “fishing” communities may lose their fishing heritage altogether (Wingard 2000). As quota consolidates and infrastructure resources move to fewer centers of activity, travel distances to access resources create difficulties for smaller vessels (Olson 2011; Copes 1996). Some infrastructure changes are reflected by changes in the first receiver and processor participation in each region (Section 2.1.6(a)(3)) as well as changes in the size of the fleet 2.1.6(a)(2). The infrastructure that supports the trawl catch share fishery is also important to other fisheries in the area.

### **2.1.6(b) Other Fisheries**

Potentially include here.

- Cross-fishery participation information. See example mock-up (Table 6).

Catcher vessels in the catch share program earn only about 50 percent of their annual revenue from the catch share fishery (data available on FISHEyE). They participate in a wide variety of other activities, meaning that the catch share program and other fisheries are interdependent. This section describes the West Coast fisheries with which catch share vessels and first receivers are most likely to directly interact. Some vessels also participate in Alaska fisheries, for which data is not readily available due to confidentiality restrictions on release of Alaska data (e.g. BSAI groundfish and GOA groundfish). Information on cross participation by fishermen was included in the 2017 Review (Section 3.2.2(g)(3)(A)).



Table 6. Cross-fishery engagement: for each fishery (row), percent of fishery revenue/purchases accounted for by the indicated group of trawl catch share fishery participants.

|                | Catcher Vessels                                      |   |                | First Receivers   |   |   |
|----------------|--|---|----------------|---|---|---|
|                | Shoreside Non-Whiting Trawlers (No Targeted Whiting) | Whiting Trawlers (At-sea and Shoreside) | Gear-Switchers | Shoreside Non-Whiting Trawlers (No Targeted Whiting but Including GS) | Whiting Trawlers (At-sea and Shoreside) | Total Exvessel Value for Fishery Adj for Inflation (\$,000) |
|                | Percentages  |   |                |   |   |   |
|                | 2011-2015  |   |                |   |   |   |
| Non-Whiting GF |  |   |                |   |   |   |
| Whiting        | 0%   | 100%                                    |                | 0%  | 100%                                    |   |
| Dungeness Crab |  |   |                |   |   |   |
| Shrimp         |  |   |                |   |   |   |
| HMS            |  |   |                |   |   |   |
| Salmon         |  |   |                |   |   |   |
| CPS            |  |   |                |   |   |   |
| P. Halibut     |  |   |                |   |   |   |
| Other          |  |   |                |   |   |   |
|                | 2016-2020  |   |                |   |   |   |
| Non-Whiting GF |  |   |                |   |   |   |
| Whiting        | 0%   | 100%                                    |                | 0%  | 100%                                    |   |
| Dungeness Crab |  |   |                |   |   |   |
| Shrimp         |  |   |                |   |   |   |
| HMS            |  |   |                |   |   |   |
| Salmon         |  |   |                |   |   |   |
| CPS            |  |   |                |   |   |   |
| P. Halibut     |  |   |                |   |   |   |
| Other          |  |   |                |   |   |   |
|                | 2021-2023  |   |                |   |   |   |
| Non-Whiting GF |  |   |                |   |   |   |
| Whiting        | 0%   | 100%                                    |                | 0%  | 100%                                    |   |
| Dungeness Crab |  |   |                |   |   |   |
| Shrimp         |  |   |                |   |   |   |
| HMS            |  |   |                |   |   |   |
| Salmon         |  |   |                |   |   |   |
| CPS            |  |   |                |   |   |   |
| P. Halibut     |  |   |                |   |   |   |
| Other          |  |   |                |   |   |   |

**2.1.6(c) Direct Employment by Sector**

Potentially include here.

- Total sector direct employment—create a single table.

- Whiting groundfish catcher vessels (update 2017 Review, total crew column of Table 50)
- Non-whiting groundfish catcher vessels (update 2017 Review, total crew column of Table 51).
- Motherships (update 2017 Review, number of processing and non-processing crew columns of Table 53)
- Catcher processors (update 2017 Review, number of processing and non-processing crew columns of Table 54)

- Shorebased processors (create an annual number of production employees from the data used to create Table 55, and update 2017 Review, total number of non-production employees row from Table 57)

- Crew member average daily and annual compensation (while fishing in the catch share fishery) (EDC—update 2017 Review Figure 21).
- Average hourly compensation of non-production employees and production workers in processing facilities (EDC—update 2017 Review Table 53, 54, and 59).

### **2.1.6(d) Seafood Distribution and Consumers**

Potentially include here.<sup>6</sup>

- Product flow: Bimonthly time series of annual data showing landings for dominant species before and after catch shares.
- Cross reference back to Section 2.1.2(a)(4) for information on product forms produced.

West Coast groundfish products supply both global and domestic fresh and frozen markets. Pacific whiting and sablefish continue to be the two main species that are exported. Due to shelf competition with other seafood products, maintaining supply chains and consumer demand in domestic markets is dependent on a steady flow of raw product. Under the pre-catch share trip limit system, trip limits were set to try to maintain a year-round flow of product. Under catch shares, market forces were expected to be more determinative of the cycles of product flow. However, those forces include more than just consumer demand but also factors such as opportunities for vessels in other fisheries. Therefore, it may be more challenging for buyers to encourage and work with vessels to maintain the steady product flow they need to compete in domestic markets.

### **2.1.6(e) Safety**

Potentially include here.

- USCG statistics on vessel incidents (update 2017 Review, Figure 56). Also, see if insurance database is now available.
- Mention effect on safety from flexibility provided by EM.

- Note the issue of the influence of paying calendar day observer costs and the time of day for departure from port and reference to Section 2.1.9(c) for further discussion and analysis.

- The 2017 Review, indicated that 52 percent of whiting fishermen and 41 percent of non-whiting fishermen interviewed said safety has improved because of the catch share program. Is there any new survey information that was collected after the 2017 catch share review?

The 2017 catch share showed that with implementation of catch shares was an increase in the number of trips starting just after midnight (2017 Review Figures 59 and 60). An increase in departures just after midnight may indicate that vessels are trading off some risks to control observer costs—which are charged on a per calendar day basis. See Section 2.1.9(c) for further discussion and analysis of how EM may have impacted this departure pattern.

<sup>6</sup> A more extensive review might also include information on product forms, as in Section 3.1.1(b)(4)(F) of the 2017 Review.

### 2.1.7 Compliance

Potentially include here.

- Summary of the NMFS OLE annual compliance reports.
- Also, check the USCG and state reports for useful information that might be summarized here.

Program compliance is essential to achievement of conservation objectives, long-term economic benefits in the context of individual responsibility. Each year NMFS OLE provides an assessment of program compliance as indicated by the enforcement actions for the year.

### 2.1.8 Program Review and Modification (Including AMP)

Potentially include here.

- No further additions have been identified for this section.

C&GP 8. Design a responsive mechanism for program review, evaluation, and modification.

As mandated by MSA, and in supported in Amendment 20 objectives, various data collections support ongoing program monitoring and management, as well as periodic program reviews such as this. In addition to routine fishery dependent and independent data collection, data collections directly connected to the program have included routine permit applications, ownership information used to calculate cumulative share ownership, mandatory and voluntary economic and social science surveys, and cost recovery information needed to calculate incremental costs.

Program reviews may result in evaluations that lead to actions, as indicated by the implementation of nearly all recommendations that came out of the first catch share program review. These modifications come in the form of FMP and regulatory amendments. The fishing opportunities allocated under the program are privileges and are their for more easily modified than if they were considered to be property rights. The process for this, the 2<sup>nd</sup> review of the trawl catch share program, is described in Section 1.1.

One tool the Council has available to it for modifying the effects of the shoreside IFQ fishery is the AMP. The Council has not yet developed an alternative allocation process for adaptive management program quota, and, has continuing the pass-through procedure on an indefinite basis (see Section 3.4.6 of the 2017 review).

### 2.1.9 Impact Indicators Related to Recent Actions or High Priority Issues

Decide whether or not to add/delete from the following list of provisions for which a few preliminary performance indicators are to be provided.

Potentially include in each of the subsection data which indicates the magnitude of activity related to the provision. That magnitude may be a first indicator of whether the action taken was sufficient or whether the action warranted the costs and any complexity that was added to the program.

This section covers only the rules implemented since the previous catch share review that may have had a more substantial impact or added some complexity to the program. The following sections are in the order in which they appear in Table 2. The intent of these sections is only to provide an initial indicator of the likely magnitude of impact of these rules.

### **2.1.9(a) Observer/Catch Monitor Rule**

Potentially include: By year

- Number of observer providers
- Number of catch monitor providers
- Number of EM providers.

### **2.1.9(b) Whiting and Midwater Trawl Cleanup Rule**

Potentially include: (Do not include this section if nonwhiting MWT cannot be used prior to the start of the whiting season (except under EFPs).

- Was there any impact on fishing strategies when a whiting tow was defined in regulation as a tow with greater than 50 percent whiting. Prior to the action tows with whiting were usually over 90 percent whiting or less than a few percent whiting.

### **2.1.9(c) Electronic Monitoring**

Potentially include: Discussion of what has happened with respect to electronic monitoring and how it has impacted vessel costs and operational flexibility. This would be the primary section to which other mentions of electronic monitoring will cross reference.

The 2017 catch share review reviewed to types of potentially risky behavior. It showed that with implementation of catch shares there was no change in the propensity to start a fishing trip in poor weather (2017 Review Figures 58), but there was an increase in the number of trips starting just after midnight (2017 Review Figures 59 and 60). The number of trips starting just after midnight grew as the amount that vessels had to pay for observers increased. An increase in departures just after midnight may indicate that vessels are trading off some risks to control observer costs—which are charged on a per calendar day basis.

### **2.1.9(d) Post Season Trading of QP (maybe put this in the transferability section)**

Potentially include: Table showing the amount of post season trading (transactions and total QP). Note, these QP might have otherwise gone unused (depending on their relationship to QP that would not have otherwise carried over).

### **2.1.9(e) Quota Share Divestiture Forced Compliance and Abandonment Provisions**

Potentially include: number of forced divestitures and amounts of QS reallocated (if any), number of times the abandonment provision was used and amount of QS reallocated on that basis (if any).

### **2.1.9(f) Dual Registration**

Potentially include: number of gear-switching vessels each year taking advantage of the dual registration provision, total sablefish harvested by those vessels while gear-switching, and number of dual registration vessels that also trawled.

### **2.1.9(g) Lingcod and Sablefish Discard Survival Credits**

Potentially include:

- By year, number of trawl gear vessels receiving survival credits and total survival credits as a percentage of catch of each species by those vessels and as a percentage of the total trawl sector catch of those species.
- By year, number of gear-switching vessels receiving survival credits and total survival credits as a percentage of catch of each species by those vessels and as a percentage of the total trawl sector catch of those species.

### **2.1.9(h) Gear Regulation Relief Package**

Potentially include:

- Use of multiple gears on a trip with separate stowage
- Fishing in multiple areas on a trip--  
How many vessels are taking advantage of each of these opportunities each year. For each, what is the total catch by these vessels on trips where they have taken advantage of the provision and what percentage is that of all of their catch and of the fleet catch (consider summaries for broad species categories).

### **2.1.9(i) Catch Share Review Follow-on Rule**

Potentially include:

- Post Season QP Trading to Cover Deficits—table showing amounts of QP traded post season for each spp/spp group.
- Post season relief from annual QP deficits—number of vessels with catch more than double the vessel QP limit.<sup>7</sup>
- Collection of QS ownership information—how would the EDC net revenue estimates for this review be different without the new QS ownership data (e.g. percent difference by year).

### **2.1.9(j) Vessel Movement Monitoring Rule**

Potentially include:

- Gear-test without an observer—frequency of use of the related declaration code (“Gear testing, Trawl Rationalization fishery (declaration code 70).

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<sup>7</sup> Prior to this provision, a vessel with catch that went over the annual vessel QP limit by more than double would have had to sit out at least a year in order to acquire enough QP to cover its deficit.

### 2.1.9(k) Pacific Whiting Utilization in the At-Sea Sectors

Potentially include:

- Number of at-sea processors registering to a mothership permit and a CP permit in the same year.
- Occurrence(s) of a single mothership processor taking in excess of 45 percent of the mothership allocation (45 percent is the cap that was previously in place).

## 2.2 Allocations [1st Draft Done]

Potentially include here.

- Nothing further than what is provided in this draft.

NMFS [Fisheries Allocation Review \(01-119, 01-119-01\) policies](#) provide a mechanism for ensuring periodic allocation reviews and requires triggers for reviews of sector allocations. The triggers were implemented by this Council in [COP 27](#). For the species and species groups for which quota is issued, A-20 is reliant on the trawl/nontrawl allocations specified in the FMP<sup>8</sup> as well as those established through the biennial specifications process. Additionally, the FMP includes an allocation of Pacific whiting among the trawl sectors and a Pacific halibut bycatch allocation to the trawl sector (used to determine the amount of Pacific halibut bycatch quota pounds that will be issued for the shoreside fishery).<sup>9</sup> COP 27 specifies that the trigger for a review of the FMP allocations is the review of the trawl catch share program. A review of these intersector allocations is to be provided in a separate document.

The NMFS catch share review guidance also states that the allocations that should be reviewed are not just those between sectors but also between entities and subgroups within the program and that the allocation review should explicitly consider the effect of existing accumulation limits on allocations ([NMFSPi 01-121-01, pp. 11-12](#)). The trawl catch share program initially allocated QS and CHAs among trawl limited entry permit holders but also provided 20 percent of the whiting QS to shoreside whiting processors. The CP allocation is given as a unit each year to the CP co-op which manages its distribution among members. Since the initial QS and CHA allocations, markets have determined redistribution of the allocations, limited by who is eligible to receive the allocation (Section 2.3), transferability rules (Section 2.4), and accumulation limits (Section 2.6). Section 2.1.5 describes the degree to which these access privileges have been consolidated and Section 2.1.6(a)(4) describes their distribution by region.

## 2.3 Eligibility [1st Draft Done]

Potentially include here.

- Nothing further than what is provided in this draft.

Reviews should evaluate who is eligible to hold quota and the effects of those eligibility criteria ([NMFS Procedural Guidance 01-121-01, p. 13](#)). If the needed resources and information is

<sup>8</sup> Including the allocation of sablefish among the trawl, LEFG and OA fisheries).

<sup>9</sup> From the bycatch allocation of Pacific halibut to the trawl fishery, 10 mt is subtracted to cover bycatch mortality in the at-sea whiting fishery and trawl fishery south of 40°10' N latitude.

available, a more extensive review effort might also include effects on those who have left the fishery.

Participation in the catch share fisheries requires access to quota. The distribution of initial allocation is described in the previous section. All quota issued under the program is transferable, though the means of transfer and eligibility to receive a transfer varies. In general, while the general public is broadly eligible to acquire shorebased QS, the eligibility to acquire shoreside QP or control MS or CP allocations is restricted to permit owners and co-ops.

Any entity eligible to own a U.S. documented fishing vessel is eligible to acquire shorebased QS. Section 2.1.6(a)(4) provides information characterizing the different types of connections that current QS owners have to the fishing industry. The annually issued shoreside QP are initially given to QS owners. After that initial QP issuance, only vessels with vessel accounts are eligible to receive the QP. They can acquire QP from QS holders or other vessel accounts. In order to establish a vessel account, a vessel must have a trawl LEP (acquired by ownership or leasing).<sup>10</sup>

Mothership CHAs are the long-term mothership sector privilege analogous to the shoreside QS. Only owners of trawl LEPs are eligible to acquire CHAs—the CHAs can only be transferred from one LEP to another. However, any entity eligible to own a U.S. documented fishing vessel is eligible to own an LEP, even if they do not own a vessel. Each year whiting quota is allocated to mothership co-ops based on the CHAs owned by the co-op members. Any vessel with a trawl LEP is eligible to join and fish on the co-op allocation, with the permission of the co-op (including vessels that do not have mothership catcher vessel endorsements).<sup>11</sup>

For the CP sector, only the CP co-op is eligible to receive CP quota. There is only one CP co-op, comprised of all the owners of the CP permits. Only vessels with CP permits are eligible to fish on the CP allocation. Any entity eligible to own a U.S. documented fishing vessel is eligible to own a CP permit.

The 2017 Review evaluated those who exited from the fishery and the other fisheries in which they participated. Information on changes in the number of participants over time is provided in Section 2.1.5.

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<sup>10</sup> Once a QP account is established, the vessel can maintain the account even if the LEP permit is transferred from the vessel.

<sup>11</sup> While in practice it has not happened, a vessel with a permit and CHA could decide not to join a co-op and then fish on its CHA in an open fishery. In such a case, in order to catch its quota, the vessel would have to compete with any other vessel that chose not to join a co-op—i.e. their opportunity to catch the quota would not be guaranteed.

Table 7. Privilege and eligible recipients of transfers.

|                | Long-term Privilege and Eligible Recipients  | Annually Issued Quota and Eligible Recipients  |
|----------------|--|--|
| Shoreside IFQs | QS – Any US Citizen  | QS owners receive QP and only vessel accounts are eligible to receive transfers of QP.   |
| MS Co-ops      | CHAs – Trawl LEPs (LEPs can be owned by any US citizen)  | Mothership co-op receives annual quota based on member CHAs and member trawl LEP vessels are eligible to receive assignments from the co-op. |
| CP Co-ops      | Long-term Privileges are Not Formally Issued<br><br>(but ownership of a CP Permit gives the owner access to the annually issued quota) | CP co-op receives annual quota (CP sector allocation) and member CP permitted vessels are eligible to receive assignments from the co-op.    |

## 2.4 Transferability [1st Draft Done]

Potentially include here.

- Nothing further than what is provided in this draft.

The review should assess whether transferability limitations are conducive to achieving the program objectives ([NMFS Procedural Guidance 01-121-01, p. 13](#)).

The previous sections identifies who initially received the allocations and is eligible to receive transfers of trawl catch share quota. After the initial allocations of quota at the start of the program, there was a moratorium on shoreside QS trading that lasted until 2014—except with respect to widow rockfish QS, for which the trading moratorium expired in 2018. CHAs were initially transferable only with the LEPs to which they were attached but became tradeable separately from their permits as of 2012. There are no individual allocations for the CP sector (except those which may be made by the CP co-op). Other than specification of who is eligible to receive quota (Section 2.3) the primary limitations on transferability are the units in which quota can transfer and accumulation limits in the shoreside and mothership sectors (see Section 2.6 for a discussion of the effects of accumulation limits).

Shorebased QS are transferable in units of virtually any size. The annually issued QP must be transferred in whole pound units. Mothership CHAs are transferred as a unit (similar to LEFG tier limits) except that CHAs must be transferred from one limited entry trawl permit to another (in contrast LEFG tier limits can only be transferred with the LEP, i.e. cannot be transferred between permits). Thus, CHAs can be owned only by owners of mothership catcher vessel permits, and owners of such permits can accumulate CHAs from multiple trawl permits (up to the maximum allowed by the accumulation limits). Once the CHAs have been used to determine the amount of quota to be given to a co-op, the co-op can assign catch opportunities to its members in any sized unit it desires, based on the co-op’s own rules.

For the CP sector, there is no quota assigned to individuals but rather individuals gain the opportunity to access the CP sector allocation by owning a CP permit and maintaining their



membership in the CP co-op (there is only one CP co-op,<sup>12</sup> comprised of all the owners of the CP permits). Once the CP sector allocation is given to the CP co-op the co-op can assign catch opportunities to its members in any sized unit it desires, based on the co-op’s own rules.

## 2.5 Catch and Sustainability (ACLs and Accountability Measures) [1st Draft Done]

According to NMFS guidance, the review should assess whether the program has kept harvest within applicable limits such as ACLs (see Section 2.1.1(a)(1)), evaluate achievement of full utilization (see Section 2.1.3), analyze impacts on the minimization of bycatch and bycatch mortality (see Section 2.1.1(a)(2)), and discuss changes in the status of the stocks covered by the program (see Section 2.1.1(a)(3) regarding overfished species). The most recent comprehensive assessment of stock status was the 2022 SAFE document (see [Table 2-4 on page 39](#) for management quantities estimated from the most recent stock assessments informing management in 2023 and beyond). Currently, there is one rebuilding groundfish stock (yelloweye rockfish) and one overfished stock ( quillback rockfish in California).

## 2.6 Accumulation Limits

Based on this preliminary assessment of the degree of concentration of ownership and the degree to which quota owners and vessels are approaching the limits, the Council may decide that a more in-depth review of the accumulation limits is not needed at this time.

Potentially include here.

- Shoreside IFQ—Annual vessel use limits—evaluate the number and percentage of vessel accounts at 90 percent of the use limit for each species and year (update of 2017 Review Table 7).
- Shoreside IFQ—QS control limits—evaluate the number individuals and number of entities at 90 percent of the use limit for each species and year (a QS version of 2017 Review Table 7).
- Mothership Sector—CHA ownership limit—evaluate the number and percentage of vessels at 90 percent for each year.
- Mothership Sector—catcher vessel whiting catch limit—evaluate the number and percentage of vessels at 90 percent for each year.
- Catcher-Processor Sector—number of entities owning more than 5 permits (limit applies only if a catch-processor sector co-op is not formed).
- NOTE: What is outlined here would not be sufficient for a full evaluation of the nature that NMFS policy describes (see first paragraph below). If such a complete evaluation of accumulation limits is to be conducted as part of the review, it will take more time and resources than are currently planned. Such a complete evaluation might be a good topic for the Council Recommendation section.

The NMFS catch share review guidance states that “reviews should analyze and evaluate the equity/distributional impacts of existing caps and the impacts those caps have had on the creation of market power by affected entities . . . [and] analyze whether and to what extent QP caps or limits have generated technical inefficiency for firms operating in a CSP” ([NMFS Procedural Guidance 01-121-01, pp 14-15](#)). Capacity control might also be covered in this section and, if so, “should be conducted in a manner consistent with the terminology and methods outlined in NMFS’ National Plan of Action for the Management of Fishing Capacity.” ([NMFSPi 01-121-01, p. 15](#)).

<sup>12</sup> If a CP co-op with a membership that includes all CP permit owners ever fails to form, the CP co-op will convert to an IFQ system.

Based on the NMFS guidance, a review of accumulation limits should also consider whether existing data collection and monitoring is adequate to determine ownership and evaluate compliance with the caps and whether the caps are being applied at levels that ensure they are serving their intended purpose. Discussion on data collection and reporting related to accumulation limits can be found in the “Ownership” section of Section 2.8.

Accumulation limits serve to disperse the concentration of ownership. Section 2.1.5 assesses the degree to which ownership has been consolidated. This section looks at indicators of the degree to which accumulation limits appear to be constraining. Given that the limits were set well below those needed to prevent oligopsonistic/oligopolistic control (levels of control that reduce the likelihood of efficient market outcomes), the question arises as to whether they are set so low as to also constrain the efficiency of individual operations. The more owners there are with QS holdings close to the control limits, the more likely it is that the control limits may be inhibiting efficiency (while at the same time they promote other management objectives, such as encouraging the distribution of benefits across more individuals and communities).

The design of the catch share program included limits on QP and QS to prevent excessive quota concentration (PFMC and NMFS 2010), an objective of Amendment 20. These limits vary by species, and they are presented in Table E-2 of the FMP, Appendix E (PFMC and NMFS 2010).

QP limits include the following:

- Vessel use limits (“annual QP limits”): a limit on the total QP that may be used by a single vessel during the year. These include the following:
  - Vessel use limits for IFQ species and Pacific halibut IBQ
  - Vessel use limit for aggregate non-whiting QP

QS limits include the following:

- QS control limit: a limit on the QS that a person, individually or collectively, may control, including QS registered to that person, plus those QS controlled by other entities in which the person has a direct or indirect ownership interest, as well as shares that the person controls through other means. These include the following:
  - Control limits for IFQ species and Pacific halibut IBQ
  - Control limit for aggregate non-whiting QS<sup>13</sup>

Mothership sector limits include the following:

- A limit on the proportion of whiting an individual or entity can accumulate via ownership of whiting catch history assignments (CHAs)—20%.
- A limit on the proportion of whiting that can be delivered by any catcher vessel—30% (50 CFR 660.111)

Catcher Processor sector limits—none (a 5 permit ownership limit would be imposed if the catcher-processor sector co-op fails to form a single co-op with all catcher-processor permits).

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<sup>13</sup> Information on the calculation of the control limit for aggregate non-whiting QS is available at the West Coast Region Quota Share and Permits page: [http://www.westcoast.fisheries.noaa.gov/publications/fishery\\_management/groundfish/catch\\_shares/aggregateqs-explanation.pdf](http://www.westcoast.fisheries.noaa.gov/publications/fishery_management/groundfish/catch_shares/aggregateqs-explanation.pdf).

In the shoreside IFQ fishery, QPs are issued to the holders of the long-term access privileges, QSs. In general, QPs are expected to be transferred to the most efficient vessels. In contrast QS are expected to be accumulated by the entities that have the most to gain through securing the opportunity to direct harvest over the long-term. Thus, trends in the ownership and consolidation of QS may vary substantially from ownership and consolidation of QPs.

## 2.7 Cost Recovery and Cost Control

Potentially include here.

- A table with the historic cost recovery percentages for each sector (or cross reference if such a table is provided earlier in the document).

NMFS tracks catch share program management costs to recover a portion of the fees associated with operating the catch share program by sector. When cost recovery began in 2014, NMFS recovered only the costs of employees’ time (salary and benefits) spent working on the program in the calculation of direct program costs (DPC), rather than all incremental costs of management, data collection, and enforcement. Beginning in FY2023, NMFS has included other categories of incremental costs such as travel, supplies, and equipment. In the spring of each year, NMFS provides an estimate of DPC for the previous period and the cost recovery rates to be charged for the coming year. The MSA caps cost recovery at 3 percent of revenue. In most years the shoreside sector recovery rate has been capped at three percent while the at-sea sectors are generally well below that level (TABLE). Total annual DPCs for the program are reported in Section 2.1.2(b).

[INSERT TABLE]

Starting in 2022, NMFS has provided the Council with funds for a contractor to study the catch share management program and determine where there might be opportunities for cost savings. The second phase of that study is occurring concurrently with this review and some results and conclusion may be incorporated in the final review document.

## 2.8 Data Collection/Reporting, Monitoring, and Enforcement

Potentially include here.

- OMB total reporting time burden. Add recent estimates to 2017 Review Table 158 (maintain previous estimate for comparison purposes).

The NMFS catch shares review policy states that reviews “should contain a description and assessment of the existing data collection, monitoring, and enforcement programs (e.g., observers, logbooks, economic data reporting, etc.), including a discussion of any changes since the CSP’s implementation or the previous review” ([NMFSPi 01-121-01](#), p. 16). The assessment should indicate whether the information available is adequate to support the review, the reporting burden imposed by data collections, and opportunities for improvements along with related costs and opportunity for cost savings. The policy also states that “particular attention should be paid to assessing whether the current enforcement provisions and activities, including resources for conducting the latter, are sufficient to ensure a high rate of compliance with program requirements” ([NMFSPi 01-121-01](#), p. 17). Additionally, “...a description and overall assessment of the CSP’s administrative costs should be provided to determine whether total

administrative costs are being minimized to the extent practicable, which is consistent with National Standard 7” ([NMFSP1 01-121-01](#), p. 17).

As mandated by the MSA, and in supported in Amendment 20 objectives, various data collections support annual program review and management, as well as this and reviews. Data collection, monitoring, and enforcement programs were described in Section 3.4.3 of the 2017 Review. They include routine permit applications, ownership information used to calculate cumulative share ownership, mandatory and voluntary social science surveys, and the cost recovery information needed to calculate incremental costs. The following are the primary changes that have occurred since development of the 2017 review:

- Further development of EM as an alternative to observer coverage.
- Annually, collect detailed ownership information on catcher-processors.
- Collect QS ownership information (expands coverage to QS owners that were not otherwise covered by EDC data collections).

Additionally, in 2024, NMFS has determined that information required by regulation to be provided to the Council, including the annual at-sea co-op reports with vessel-level catch and bycatch information, is considered confidential under the Magnuson-Stevens Act, thus it may not be released to the public. Council members and staff and NMFS staff may have access to the reports but may not release their contents to the public, either in the briefing book or public discussion. However, the co-ops could agree to the public release of this information, including vessel-level catch and bycatch by signing a waiver. By signing the waiver, the Council could include the information in the briefing book or have a public discussion at a Council meeting. The review could explore the rationale for the requirement to provide the vessel level data and the ability to evaluate future program performance if co-ops do not agree to publicly release the confidential data.

The total time burden for reporting, as calculated by the Office of Management and Budget, works out to approximately 6,500 hours each year (Table 8).

Table 8. Paperwork requirements and time estimation associated with the program. Source: [reginfo.gov](#).

|  | 2017 Review |                     | Current Estimates |  |
|--|-------------|---------------------|-------------------|--|
|  | Responses   | Time Burden (Hours) |                   |  |
| Pacific Coast Groundfish Fishery Rationalization Social Study  | 153         | 143                 |                   |  |
| West Coast Groundfish Trawl Economic Data (multiple collection)  | 207         | 2,208               |                   |  |
| West Coast Region Groundfish Trawl Fishery Monitoring and Catch Accounting Program (multiple collection)               | 7,449       | 1,826               |                   |  |
| Pacific Coast Groundfish Trawl Rationalization Program Permit and License Information Collection (multiple collection) | 3,344       | 405                 |                   |  |
| Northwest Region, Pacific Coast Groundfish Fishery: Trawl Rationalization Cost Recovery Program (multiple collection)  | 1,874       | 1,904               |                   |  |

The adequacy of existing enforcement efforts is partially reflected by the high compliance levels reported in Section 2.1.7.

In conjunction with this review is a cost project that is evaluating program related costs and identifying potential areas where there may be opportunities for cost savings. See Section 2.1.2(b) for further discussion and information on program costs.

## 2.9 Duration [1st Draft Done]

Potentially include here.

- Nothing further than what is provided in this draft.

The review should indicate the life span of the catch privileges and discuss the pros and cons of the current specification of the catch privilege duration. See Section 3.4.7(d) of the 2017 Review for a summary of the Council’s deliberations on the duration of the catch share program. Although a fixed duration was not part of the Council’s final preferred alternative, the MSA restricts the duration of a fishing privilege to 10 years with the possibility of automatic renewal. The trawl catch share program renews automatically unless privileges are revoked, limited, or modified. The catch share program allocates harvest privileges (not rights) which may be modified at any time or even eliminated without compensation to the holders of those privileges.

## 2.10 Entry and Exit, Including New Entrants

Potentially include here.

- Entry and exit could be evaluated looking either at changes in individuals in ownership positions. However, an in-depth look at entry and exit is likely to be somewhat complicated because of the number of entities with multiple owners and might not be warranted unless other data indicates a cause for concern.

According to NMFS guidelines, the review should assess opportunities for new entrants including cost of entry and whether those costs have increased to the point where market power is being exercised, resulting in economic inefficiencies ([NMFS Procedural Guidance 01-121-01, pp 17-18](#)). Equity and distributional effects, including intergenerational effects, should also be considered.

Net entry/exit is reflected by changes in the number of active participants in each segment of the industry (see Section 2.1.5). Trawl vessels require limited entry permits and to quota in order to enter the trawl LE fishery. Taken in aggregate, the cost of the permits and quota should reflect the available profits. Over the long run, those wishing to liquidate their permits and quota assets and exit the fishery will not be able to do so at a price that does not provide a normal profit opportunity for those entering the fishery. Because second generation participants (those purchasing QS from initial recipients) will incur quota acquisition costs, their level of profitability (and willingness to pay for quota) will be lower than the initial recipients. Thus, it is unlikely that an initial recipient will receive from a second generation buyer an amount for their quota that reflects the initial recipient’s level of profits. Once an asset has been purchased, net revenue related to that asset may decline or increase depending on fluctuations in other costs of participation and revenue. Section 2.1.4 provides data indicating the profitability level for individual participants.

Entry costs are unlikely to result in a barrier to entry that allows the exercise of market power. In order for barriers to entry to create opportunities for the exercise of market power, those barriers would have to lead to a level of aggregation not possible given the accumulation limits (Section 2.6).<sup>14</sup>

## 2.11 Auctions and Royalties [1st Draft Done]

Potentially include here.

- Nothing further than what is provided in this draft.

For catch share programs implemented after January 12, 2007, the MSA requires consideration of auctions or royalties for the initial or any subsequent distribution of limited access privileges. Auctions would secure a portion of the resource rents for the public that would otherwise go to QS owners. The Council’s catch share policy states that

The Council will consider the use of an auction or royalties as required by the Magnuson-Stevens Act, along with other nonhistory based methods when distributing quota share that may become available after initial allocation. This may include quota created when a stock transitions from overfished to nonoverfished status, quota not used by the adaptive management program, quota forfeited to “use it or lose it” provisions, and any quota that becomes available as a result of the initial or subsequent reviews of the program. ([Groundfish FMP Appendix E](#), p. E-16)

The auctions and royalties provision gives notice of the Council’s intent to consider implementing an auction if QS must be redistributed. The public, industry, and those who acquire QS should be aware that the program can be changed at any time and an auction implemented, following the appropriate process for amending the FMP. If the Council considers such an auction, a full regulatory amendment and rule-making process would accompany that decision. That process would include a complete analysis of the specific proposal and an opportunity for public comment.

## 2.12 Other Issues that Could be Included or Noted

Consider whether there are any additional specific topics that should be explicitly considered or subject to a more indepth evaluation in Section 2.1. Some possibilities are listed here.

- Reopening of the trawl RCA.
- Pacific Coast Groundfish Social Survey—discontinuance.

## 3.0 RESEARCH AND DATA NEEDS

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<sup>14</sup> Given the accumulation limits, the only other possibility would be for numerous independent actors to acquire quota and withhold it from the market, allowing those few who choose to be active to exercise market power. It is difficult to hypothesize a scenario in which this might occur.

Finalize a 2024/25 review needs list after public review of the new list.

Review 2017 research and data needs provided here. Document actions that have been taken to address the needs and identify remaining and any new needs for this review.

### **3.1 Data Needs Identified in the 2017 Review**

#### **3.1.1 Assessment of Quota Costs, Earnings, and Share Owner Participation**

**Problem:** For the Council to fully evaluate the impacts of the catch share program on fishing industries, the Council requires information on the effects of quota leasing on the financial performance of active vessels in the fleet, the extent to which quota owners are leaving the fishery (i.e. “absentee owners”), and the ability to make accurate economic impact estimates for different port areas or states. This requires data not only about revenues from fish landings and processing, but also from quota sales and leases. The available data are insufficient: the EDC program was not authorized to collect information from entities that do not own a vessel active in the fishery, so complete data collection from QS owners is not possible. In many cases, the QS holder is a different entity than the vessel. Thus, data collected by the EDC are not a complete representation of revenues earned from the leasing of quota by quota owners. In addition, the EDC collects data by fiscal year, and quota costs cannot be reallocated to the calendar year using accepted cost disaggregation methods, as other costs can be. This means that existing data is not sufficient a complete analysis of several important issues. These issues are expected to become more important if the proportion of quota controlled by entities that do not own an actively fishing vessel increases in the future.

**Potential solution:** The EDC mandatory data collection program could be expanded with a quota share owner survey to collect information regarding the revenues earned from quota leasing and the quota owners’ connections to actively participating vessels from QS owners. The mandatory survey could be very short and would need to be administered to all quota owners. This could result in removing quota-related questions from the PCGFSS and the EDC. Implementation would require Council action and NMFS rulemaking.

#### **3.1.2 Ownership Information for the Catcher Processor Sector**

NMFS does not collect ownership information for catcher-processor permits, which would prevent enforcing accumulation limits at the owning entity level equivalent to those enforced in the mothership and shorebased IFQ sectors.

**Problem:** With existing data, there is not sufficient information to monitor ownership of catcher-processor permits at the individual-entity level. The Council may wish to initiate collection of this information to support the development and enforcement of accumulation and processing standard limits in the catcher-processor sector. Without this data, there is also reduced ability to consider holistic ownership across sectors in the trawl rationalization program.

**Potential solution:** Add ownership information data collection to the catcher-processor permit annual renewal application (requires Council action and rulemaking), equivalent to that currently collected for shorebased participants.

### **3.1.3 Data and Studies on Administrative Costs**

Problem: Determining the benefits generated by the program depends on knowing the full cost of administering the program. To date, while NMFS has quantified the incremental costs of implementing the program, full cost-accounting (including costs incurred by the Council and states) has not yet been implemented. This information would need to be developed to fully understand the relationship between costs of the program and the economic benefits to the nation that are generated.

Potential solution: NMFS will assess the feasibility of providing additional program administration cost information in future annual reports.

### **3.1.4 Quality Assurance/Quality Control of the Quota Transactions Database administered by the WCRO**

Problem: The Quota Transactions Database records the transfer of quota between accounts and also collects certain key information such as the amounts paid or other compensations associated with the transactions. Currently, the database is of questionable quality for some research uses because there is no quality assurance/quality control (QA/QC) of the data, no feedback is provided to data providers, and because data providers cannot revise previous submissions. Research users have noted outliers and obviously incorrect recorded values. There is no mechanism for quota purchasers to revise values (often prices are not set until the fish is delivered).

Potential solution: Develop staff and resources to QA/QC and maintain the database. This would include redesigning the interface to allow users to more accurately classify their transactions and revise entries once a price has been decided; contact participants to help them correct inaccurate information; and determine which uses of the data are appropriate.

## **3.2 Research Needs Identified in the 2017 Review (to be updated)**

### **3.2.1 Attainment Rates, Aggregation Limits, Economies of Scale, and Market Manipulation**

Problem: It has been hypothesized that aggregate limits are causing under-attainment of the trawl allocation, but we don't know how participants would behave if these limits were not in place, nor the potential market effects of changing the aggregate limits.

Potential Research: There is a need to identify the information and analysis that would further an understanding of the effects of aggregate limits that are used to achieve social objectives as well as facilitate efficiency and prevent market manipulation. One potential option would be to update Lian, Singh and Wenniger 2009. Similarly, to help develop future research and data needs lists, it may be useful to develop an analysis of possible reasons for under-harvest and identify the data necessary evaluate those causes.



### **3.2.2 Identifying Observed Drivers of Change**

Problem: Changes in the fishery have been observed since the implementation of the catch share fishery. However, the source of these changes continues to be unclear. For instance, the catch share program or other factors may induce participants with certain characteristics to leave the fishery. This bias in exiting participants will alter the composite characteristics of the fishery, even if the behavior of the remaining vessels hasn't changed. Alternatively, the observed changes may be due to the participants as a whole changing their behavior. In addition, some departure from the fishery may be due to pre-existing trends. Determining the source of these changes will support more effective management decisions.

Potential research: Additional research to try to separate observed changes into those due to changes in individual behavior from those due to a change in the makeup of the population of participants.

### **3.2.3 100 Percent At-Sea Monitoring and Shoreside Monitoring**

Problem: The current level of monitoring was required by the Council to maintain individual accountability, a central tenet of the program. However, it is costly to vessels and processors. It amounts to about half of a percent of revenue for motherships, catcher-processors, and shorebased first receivers, and up to 4.5 percent of revenue for non-whiting trawl vessels (in 2015).

Potential research: An assessment of whether the goal of individual accountability can be maintained with less than 100 percent at-sea and shoreside monitoring could be conducted.

### **3.2.4 Changes in Sablefish Fisheries South of 36° Latitude**

Problem: This report begins to address conflicts between the IFQ and non-IFQ fisheries for sablefish south of 36°. However, the issues and interactions are complex and more than can be covered in a general program review. Topics to be explored include issues such as temporary localized impacts on CPUE, more general localized depletion and stock productivity impacts, on the grounds gear conflicts, market conflicts, and others.

Potential Research: Available data should be further explored to evaluate these issues, including, in particular, the increased harvest of trawl allocation by fixed gear in the area south of 36° and the geo-specific nature of those impacts including their consequences for fishing opportunities and the health of the stocks.

## **4.0 SUMMARY OF MAJOR FINDINGS**

To be developed based on Program Performance and Review section results and public comment on program performance.

## **5.0 COUNCIL RECOMMENDATIONS**

Develop Council recommendations for public review and then finalize those recommendations when review document is adopted.

## 6.0 CONTRIBUTORS AND ACKNOWLEDGEMENTS

Jessi Doerpinghaus, PFMC Council Staff

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Maggie Sommer, NMFS Staff

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Jim Seger, Consultant

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## **Appendices (as needed)**