Agenda Item F.4.

SABLEFISH GEAR SWITCHING - IDENTIFYING THE GEAR SWITCHING LEVEL TO USE IN DEVELOPING ALTERNATIVES

APRIL 2021
Synopsis of Process to Date

- April 2018 - SaMTAAC Charged to Develop Alternatives
- Sept 2020 - Council Decides to Move thru Full Process
- Nov 2020 - Council Req Analysis of Levels of Gear Switching
Council Action

Select Gear Switching Level
Provide Other Guidance

Consider short-term and long-term levels?
Briefing Book Materials - Orientation

As of Mon, Apr 12

- Attachment 1 -- Analysis
- Supplemental CDFW Report
- Supplemental GMT Report
- Supplemental GAP Report
- Public Comment
Questions on Overview and Process?
Evaluation of Gear Switching Levels

**IMPACTS**

Short & Long term

User Groups
- GS Fleet
- Trawl Fleet
- QS owners
- First Receivers
- Community

**CONDITIONS**

Is GS constraining (recently & future)?
Sablefish QP Availability?
Understanding Conditions for Analysis

- **Constraint on Trawl Attainment (recent fishery information)**
  - What is currently constraining trawl, gear switching or something else?

- **Future Gear Switching Levels**
  - Is gear switching likely to expand in the future?
  - Will gear switching become a constraint (if currently not one)?

- **Sablefish QP Availability**
  - If there is surplus sablefish QP, will trawlers increase their use of sablefish QP or will it go unused?
  - How will changing sablefish ACLs affect QP usage in different trawl sector strategies?

**Conclusion: Indicators but No Certain Answer**
Impacts on Communities and Processors

Hyp: Gear Switching Is Limited

Gear Switching Is Constraining

Longer Term Effect
Possible Increased Investment in Infrastructure and/or Marketing

Trawlers Use Sablefish QP (Change Spp Mix)

Trawlers Expand Attainment

Loses GS Revenue

Gains in Sablefish Revenue

Possible Increased Investment in Infrastructure and/or Marketing

Modest Decline in QP Prices

Possibly a Small Decline in QP Prices

Gains in Attainment of Target Spp and Sablefish

Loses GS Revenue

No Change

Likely More Substantial Decline in QP Prices

Surplus Sablefish QP as a Result of Limit

Fixed Gear

Trawl

QS Owners

Impacts on Communities and Processors
Presentation Overview

- Conditions Affecting Results (Sec 2.0 and 3.0)
- Results (Section 4.0)
- Process Forward
Section 2.0: Main Factors Influencing Trawl Allocation Attainment

- Competing uses, including gear switching
- Vessel participation
- Market limits
- Infrastructure limitations
- Catch share program design
Review of Factors - from September 2020 Analysis

Vessel Participation

- Likely not a limiting factor

Infrastructure Limitation

- Processor numbers declining
- Non-processing infrastructure likely not affecting attainment

Catch Share Program Design

- QS control limits may be limiting attainment
Competing Uses

SECTION 2.1
Competing Trawl Strategies

- DTS revenue per 1000 pounds of sablefish lowest amongst trawl.
- For those complexes with substantially higher revenue per 1000 pounds of sablefish, it is likely that trawl vessels easily out-compete gear switching vessels with respect to acquisition of sablefish QPs.
Trawl/GS Competition

- Avg price per pound of sablefish was 40% lower for trawl than GS.
- Gear switching rev per 1000 lbs of sablefish less than all trawl strategies.
- Per 1,000 pounds of sablefish, DTS receives 125% more revenue than GS vessels.
Individual Vessel Performance

If all trawler vessels were more profitable than all fixed gear vessels or all fixed gear vessels more profitable than all trawl vessels, the more profitable group would expand fishing until they use all sablefish QP or run into another constraint (e.g. markets).

However, variation in individual vessel performance makes the picture more complex.
Costs per Dollar of Exvessel Revenue
(From EDC FISHEyE)

These graphs are a supplement to the analysis provided in the briefing book.

Higher cost/lower profit operations
Lower cost/higher profit operations

Higher profit gear switching vessels

Higher profit gear switching vessels

Lower profit trawl DTS vessels
Dover Ratio Analysis

2007-2010: Dover “bubble”
- Peak landings
- High Ratio

Starting in 2011:
- Landings decline
- High ratios continue

Fig. 6 from Att. 1

Fig. 5 from Att. 1
- 2007-2010: Increased Dover allocation → Shift in amts & % of landings in the bins representing higher Dover/sablefish ratios
- 2011-2019: Proportion of landings in the highest ratio bins increased even further
- Appears as though there was not a general upwards shift amongst the bins, but rather a deliberate shift in tactics.

Previous Analysis

Dover price dip with expansion of production

Indicators of Dover market capacity limit?

From Fig. 9 from Att. 1

From Fig. 8 from Att. 1
Dover Sole Delivered (>\$0.30 and \textless;\$0.30)

<table>
<thead>
<tr>
<th>Year</th>
<th>Price ($)</th>
<th>Lbs (mil)</th>
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<tr>
<td>2007</td>
<td>0.38-0.39</td>
<td>13.8</td>
</tr>
<tr>
<td>2008</td>
<td>0.33-0.35</td>
<td>18.6</td>
</tr>
<tr>
<td>2009</td>
<td>0.41-0.45</td>
<td>13.6</td>
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Predominant Dover Price Cats

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<tr>
<th>Year</th>
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<tr>
<td>2001-2006</td>
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<td>2007</td>
<td>13</td>
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<td>2008</td>
<td>60</td>
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<tr>
<td>2009</td>
<td>140</td>
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<tr>
<td>2010</td>
<td>56</td>
</tr>
<tr>
<td>2011</td>
<td>28</td>
</tr>
<tr>
<td>2012-2019</td>
<td>14</td>
</tr>
</tbody>
</table>

Number of Price Points (>10k lbs)

From Fig. 12 from Att. 1

From Fig. 11 from Att. 1
Section 3.0: Future Gear Switching Levels

Development of Scenarios for Unlimited Gear Switching

Potential Influences on Future Gear Switching

- Biomass
- Sablefish Market Prices
- Crossover from Other Fisheries
- New Entrants
- Quota Share
Potential Influences on Future Gear Switching

Biomass Changes
- Availability changes with ACLs, allocations
- Encounter rates may change by strategy

Sablefish Market Prices - Recent Years (2018-2019)
- Exvessel prices declined but gear switching increased
- Trawl/fixed price differential increased in recent years
- QP prices
  - Declined with exvessel sablefish prices
Potential Influences on Future Gear Switching

Crossover from Other Fisheries

- LEFG and Dungeness crab fisheries appear to have highest rate of crossover
- New analysis on Alaska interactions
  - Less than 15% of the fleet participates in both fisheries, 2016-2019
  - Appears that vessels prioritize West Coast fishing compared to Alaska

New Entrants

- Avg. of 2 new vessels and permits entering the GS fishery, 2016-2019
- Total annual participation has stabilized at ~15-16 vessels & permits, 2016-2019
Potential Influences on Future Gear Switching

Quota Share Ownership

- A strong trend toward increased acquisition of QS by gear switchers might indicate an intent for long term or expanded participation.
- We are not seeing a strong trend
  - GS vessel and permit owners acquired 3.0 percentage points since 2014
Development of Scenarios for Unlimited Gear Switching

33 percent gear switching limit \( \approx \) recent GS level

Utilized a random sampling methodology using GS landings of vessels from 2011-2019

\[ \text{\textcircled{2}} \text{See methods in Section 7.0} \]

Identified two levels of increased GS for analysis:

40 and 52 percent
What is currently constraining trawl attainment, gear switching or something else?

- In 2011, Dover decline was more than proportional to the sablefish allocation decline.
  - Compensation through increased Dover/Sable ratios

- Trawlers have greater total revenue per pound of sablefish than GS, on average.
  - but, there was substantial overlap and variability of profit comparing vessels from both fleets

- The decline in Dover landings in 2010 and 2011 might have a market driven component.

Summary: Constraints and Future
Summary: Constraints and Future

- **Is gear switching likely to expand in the future?**
  - Short term, ACLs increasing might meet needs (decrease percent used for gear switching).
  - ACLs could decline, increasing constraints and competition among trawl and non-trawl strategies.
  - Declining exvessel and QP prices but gear switching has increased slightly (FG/trawl price differential increasing).
  - Most likely source of new participants are LEFG and Crab vessels (limited AK overlap).
  - Limited recent expansion in annual number of participants or acquisition of QS by gear switchers.

- **How might trawlers respond to surplus of sablefish QP?**
  - Starting in 2007 trawlers reduced sablefish as a share of their DTS. This might be reversed if opportunity is provided.
Impacts of Gear Switching

SECTION 4.0
Evaluation of Gear Switching Levels

Gear Switching Levels: 0%, 12%, 20%, 33%, 40%, 52%

**IMPACTS**

Short vs. Long term

**User Groups**
- GS Fleet
- Trawl Fleet
- QS owners
- First Receivers
- Community

**CONDITIONS**

Gear switching is constraining
- Harvest of co-occurring complexes changes with sablefish supply

Gear switching is not constraining
- Trawl non-sablefish harvest exhibits no change
- Trawl harvest increases utilization of sablefish within complexes

Sablefish QP Availability
- ACL levels (2013, 2019, 2021)
- Response to Surplus QP
Short Term Impacts

SECTION 4.1
Gear Switching Level Impacts

- ACLs and allocations impacts the GS limit (Table 13 on page 49)
- 2019 fleet capacity

- 2 million lbs
  - Low allocation year (2013) → 50% of the allocation
  - High allocation year (2021) → 29% of the allocation

- 35.1% of the allocation
  - Low allocation year (2013) → 1.4 million lbs
  - High allocation year (2021) → 2.43 million lbs
Gear Switching Fleet Impacts

- Compared actual landings to GS limit under “cap” for each allocation level.

- Losses for gear switchers of approximately $0.22 to $4.56 million, relative to actual values.

Table 13 and Figure 23 from Att. 1
Trawl Fleet Impacts

Four scenarios

• Gear switching is displacing trawl and
  ◦ (a) Gear switching declines to zero
  ◦ (b) Gear switching is reduced
  ◦ (c) Gear switching expands

• Gear switching is not displacing trawl

Impacts to competing trawl strategies and DTS only
## Competing Strategies in 2019

- Ratios in 2019 lower than average--> trawlers using more sablefish to get complexes out of water.
- Increase in use of sablefish for mixed slope and mixed shelf strategies.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Average (2016-2019)</th>
<th>2019</th>
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<tbody>
<tr>
<td></td>
<td>Proportion</td>
<td>Ratio of non-sable to sablefish</td>
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<tr>
<td>DTS</td>
<td>77.4</td>
<td>8.3</td>
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<tr>
<td>Flatfish</td>
<td>12.4</td>
<td>15.9</td>
</tr>
<tr>
<td>Mixed Slope</td>
<td>8.7</td>
<td>15.4</td>
</tr>
<tr>
<td>Mixed Shelf</td>
<td>1.5</td>
<td>39.3</td>
</tr>
</tbody>
</table>

Table 14 from Att. 1
Assumption: Gear Switching Constrains Trawl

(a) Gear Switching is Eliminated

Trawl revenue increases $9.7 to $12.7 million
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Actual Strategy (2019)</th>
<th>Hypothetical Increase</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Landings (mil. of lbs)</td>
<td>Revenue ($ mil)</td>
<td>Landings (mil. of lbs)</td>
</tr>
<tr>
<td>All Competing Strategies</td>
<td>31.6</td>
<td>19.1</td>
<td>+20.9</td>
</tr>
<tr>
<td>DTS</td>
<td>18.2</td>
<td>10.6</td>
<td>+16.7</td>
</tr>
</tbody>
</table>

Table 15 from Attachment 1
Assumption: Gear Switching Constrains Trawl

(b) Gear Switching Is Reduced

Trawl revenue increases $0.6 to $8.3 million
<table>
<thead>
<tr>
<th>Target</th>
<th>12 percent</th>
<th>20 percent</th>
<th>33 percent</th>
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<tr>
<td></td>
<td>Landings (mil. of lbs)</td>
<td>Revenue ($ mil)</td>
<td>Landings (mil. of lbs)</td>
</tr>
<tr>
<td><strong>All competing strategies</strong></td>
<td>+13.7</td>
<td>+8.3</td>
<td>+9.0</td>
</tr>
<tr>
<td><strong>DTS</strong></td>
<td>+11.0</td>
<td>+6.4</td>
<td>+7.2</td>
</tr>
</tbody>
</table>

Table 17 from Attachment 1
Assumption: Gear Switching Constrains Trawl

(c) Gear Switching Increases

Trawl revenue decreases $1.4 to $6.1 million
<table>
<thead>
<tr>
<th>Target</th>
<th>40 percent</th>
<th>52 percent</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Landings (mil. of lbs)</td>
<td>Revenue ($ mil)</td>
</tr>
<tr>
<td>All competing strategies</td>
<td>-2.9</td>
<td>-1.8</td>
</tr>
<tr>
<td>DTS</td>
<td>-2.3</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

Table 19 from Attachment 1
If gear switching is not constraining and....

GEAR SWITCHING REDUCED

- Trawlers increase sablefish ratio
  - No gear switching
  - $74-$100 per mt of DTS
- No change in spp mix
  - Sablefish QP goes unused

GEAR SWITCHING INCREASED

- More of a result than a cause
- Trawlers could increase non-sablefish to sablefish ratios or make no change → freed up sablefish QPs for GS
QS Owners

GS DISPLACES TRAWL

Gear switching declines
- Modest decrease in QP prices

Gear switching increases
- QS prices are likely to increase

GS DOESN’T DISPLACE TRAWL

Gear switching declines
- Trawlers increase proportion of sablefish
  - Some decrease in QP prices
- Trawlers don’t change proportion of sablefish
  - Substantial reduction in QP prices

Gear switching increases
- QP prices relatively stable
First Receivers (Buyers)

Difficult to predict distribution of changes across FRs.

- **Fixed Gear only**
  - 35% of all GS sablefish

- **Both Trawl and Fixed Gear**
  - 39% of all GS sablefish
  - 23% of all trawl sablefish

- **Changed Strategy Between Years**
  - 26% of all GS sablefish
  - 48% of all trawl sablefish

- **Trawl Only**
  - 29% of all trawl sablefish

Figure 24 from Attachment 1
Community Impacts

SECTION 4.1.5
West Coast Communities - Port Areas (2016-2019)

- Most ports receive less than 15% of revenue from IFQ fisheries
- IFQ landings decrease as travel south

Fig. 25 from Att. 1
Percent of Groundfish Revenue from Gear Switching Port Areas

From Tab. 29 from Att. 1
Ports receiving both non-whiting trawl and gear switched IFQ landings

- Bellingham
- Astoria
- Newport
- Coos Bay
- Fort Bragg
- San Francisco
- Princeton/Half Moon Bay
- Monterey
- Morro Bay

From Tab. 27 from Att. 1
Ports receiving GS landings but no non-whiting trawl landings

Ilwaco (receives both gear switched and whiting)
Moss landing (received only gear switched)

A number of ports receive non-whiting trawl but no GS landings

Neah Bay
Westport
Brookings
Crescent City
Eureka
Other San Fran/San Mateo

Ports that receive only LEFG (and not IFQ) might be indirectly affected, for example

Winchester Port Orford Bodega Bay

From Tab. 27 from Att. 1
Port Related Fleet Specific Impacts

**GS CONSTRAINING**

**Reduction in GS:**
- If port has infrastructure → increased trawl landings
- Negative effect for GS ports

**Increase in GS:**
- Likely to negatively impact trawl focused ports
- Positive effect for GS ports

**GS NOT CONSTRAINING**

**Reduction in GS:**
- Some ports with trawl landings could offset if trawlers increased sablefish harvest
- Mostly affect ports focused on GS

**Increase in GS:**
- No effect on trawl ports
- Positive effect for GS ports
### Summary of Short Term Impacts (GS Constraining)

<table>
<thead>
<tr>
<th>GS Level</th>
<th>Net Impacts</th>
<th>Change in NWT % Attainment</th>
<th>QS Owners (QP prices)</th>
<th>First Receivers</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Landings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>-9.1</td>
<td>-$4.3</td>
<td>-3.6%</td>
<td>Substantial</td>
<td>Trawl</td>
</tr>
<tr>
<td>40</td>
<td>-2.6</td>
<td>-$1.3</td>
<td>-1.1%</td>
<td>Depends on distribution of buyers</td>
<td>GS</td>
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<tr>
<td>33</td>
<td>1.1</td>
<td>+$0.5</td>
<td>+0.4%</td>
<td>Possible</td>
<td>Redistribution among ports</td>
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<td>20</td>
<td>8.1</td>
<td>+$3.8</td>
<td>+3.2%</td>
<td>Modest</td>
<td>Trawl</td>
</tr>
<tr>
<td>12</td>
<td>12.4</td>
<td>+$5.9</td>
<td>+4.9%</td>
<td></td>
<td>GS</td>
</tr>
<tr>
<td>0</td>
<td>18.9</td>
<td>+$8.9</td>
<td>+7.4%</td>
<td></td>
<td>Redistribution among ports</td>
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</table>

From Tab. 30 from Att. 1
Summary of Short Term Impacts
*(GS Not Constraining; No Change in Ratio)*

<table>
<thead>
<tr>
<th>GS Level</th>
<th>Net Impacts</th>
<th>Change in % Attainment</th>
<th>QS Owners (QP prices)</th>
<th>First Receivers</th>
<th>Community</th>
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<tr>
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<td>Revenue</td>
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<td>-0.1%</td>
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<td>Trawl</td>
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<td>20</td>
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<td>-0.4%</td>
<td>Substantial</td>
<td>GS</td>
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<tr>
<td>12</td>
<td>-1.3</td>
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<td>Redistribution among ports</td>
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<td>-$3.8</td>
<td>-0.8%</td>
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If gear switching increased, trawlers would have had to change ratio.
Long Term Impacts (Section 4.2)

- Include short-term impacts plus longer term effects
- Long-term most likely associated with changes in investment (also GS reduction phase in)
- If GS is constraining (or could become one) → a limitation could reduce uncertainty in access to QP → increase investment in processing equipment and marketing
- Limiting GS could affect investments in businesses dependent on GS (either operations or leasing QP)
- Impact on community’s infrastructure
Looking Down the Road

This meeting: select gear switching limit level(s)

SaMTAAC Proposed Three Actions Alternatives for Achieving Levels
- Alt 1 Gear Specific QP
- Alt 2 Gear Switching Endorsement
- Alt 3 Active Trawlers

Coming Steps?

1. Selection of Range of Alternatives to Develop

2. Modifications of Alternatives to Achieve Gear Switching Limit(s)
   - Short-term: Qualification Provisions for Grandfather/Legacy Privileges and Opportunity Provided for GS
   - Long-term: Remaining Gear Switching Opportunity if Legacy Privileges Expire
   - Section 5.0 poses questions for to help guide further development of analysis

3. Narrowing of Other Options Within Alternatives
Council Action

Select Gear Switching Level to Guide Development of the Gear Switching Alternatives and Provide Other Guidance as Appropriate

Consider short-term and long-term levels?