

GROUNDFISH MANAGEMENT TEAM REPORT ON SALMON BYCATCH ENDANGERED SPECIES ACT CONSULTATION: FINAL RECOMMENDATIONS

The Groundfish Management Team (GMT) provides the following recommendations for the Council to consider when selecting their final scenarios for the Chinook salmon Biological Opinion (BiOp) for the west coast groundfish fishery.

Proposed Actions to be Analyzed

Whiting

Based on the National Marine Fisheries Service (NMFS) Reports ([Agenda Item I.1, NMFS Report 1, March 2017](#); [Agenda Item I.1, NMFS Report 2, March 2017](#)) and the analysis presented in [Supplemental GMT Report 1, April 2017](#), **the GMT recommends the Council select Scenario 1A as the final recommendation.** With the recognition that bycatch varies with time, location, and environmental conditions, the GMT believes that Scenario 1A captures the extent and behavior of the whiting fishery, and that 11,000 Chinook salmon is an appropriate threshold for the whiting sectors.

Non-Whiting

The GMT recommends that the Council select Scenario 2B as the final recommendation as it best encapsulates what the Pacific Coast Groundfish fishery is expected to look like for the foreseeable future, including several upcoming changes that the Council is scheduled for final action this year (e.g., preliminary preferred decision to removal of the rockfish conservation area (RCA) south of 46° 16' N. lat., revitalized midwater rockfish fishery, etc.).

Furthermore, as stated in [Agenda Item F.3.a, Supplemental GMT Report 1, April 2017](#), **the GMT recommends that information on actions the Council has already finalized, or may be expected to in the near future, be included in the BiOp to provide a full and accurate picture of the groundfish fisheries.** Specifically, the Council may want to recommend including particular actions that are outside the original description of the fishery, presented in the analysis for Scenario 2B, for inclusion in the BiOp. In addition to the rulemakings listed in [Agenda Item F.1.a, NMFS Report 2, April 2017](#) the GMT believes characterization of the upcoming exempted fishing permit (EFP) for the coastwide year-round midwater fishery (currently scheduled for preliminary action in June and final action in September) be included in the BiOp's qualitative discussion, at a minimum, as it occurred outside of the 1995-1999 historical period.

The GMT recognizes, and would like to reiterate, that there is a high amount of uncertainty and a wide range of potential Chinook salmon bycatch amounts for the non-whiting sector ([Agenda Item I.1.a, NMFS Report 1, March 2017](#) and [Agenda Item F.3.a, Supplemental NMFS Report, April 2017](#)). It is important to consider that the additional analysis provided in the aforementioned reports were based on several assumptions, including full utilization of target species allocations (e.g., attainment of the entire yellowtail rockfish trawl allocation) and historical effort levels (number of vessels participating). Therefore, the GMT provides guidance below on what we

believe is the best range of potential Chinook salmon impacts, and what the appropriate threshold levels might be.

After assessing all of the available projections, the GMT believes that the **Scenario 2B-No SFFT: “historical shelf activity” (Table 1) scenario based on mean projections plus the high of 404 Chinook from the non-trawl sector that occurred in 2013 (Table 10 from [Agenda Item I.1.a, NMFS Report 2, March 2017](#)) would represent the potential “upper end” of non-whiting bycatch.** This results in an upper end of 23,584 Chinook salmon. This scenario characterizes what could theoretically occur, based on the expected future of the fishery (i.e., removal of the RCA south of 46° 16’ N. lat., no SFFT, higher historical landings).

Table 1. Comparison of the Scenario 2B non-whiting Chinook salmon bycatch projections (resumption of historical activity) using mean 1990’s landings, mean shelf activity, and alternative bycatch rates. Note that these projections do not include non-trawl impacts, which the GMT recommends be included.

Scenario	Source	Bottom trawl bycatch rate description	Approach for replacing low bycatch rate SFTTs w/ higher rates of hooded nets	Min	Mean	Max
2B-1	NMFS report 1; Table 14-i	Recent WCGOP observed hauls. Includes low bycatch rate SFTTs for shelf	---	634	1,942	3,444
2B-No SFFT: "recent shelf activity"	NMFS Supp. April 2017; Table 3-c B. trawl + Table 1-h mid-water	SFFT replaced w/ higher bycatch rate hooded nets (2002-2004 WCGOP) in shelf.	<u>Recent:</u> higher hooded rate applied to portion of shelf GF landings during IFQ for WCGOP observed hauls.	2,887	11,777	25,956
2B-No SFFT: "historical shelf activity"	NMFS supp. April 2017; Table 3-d b. trawl + Table 1-h mid-water	SFFT replaced w/ higher bycatch rate hooded nets (2002-2004 WCGOP) in shelf.	<u>Historical:</u> higher hooded rate applied to portion of GF landings in shelf during 1990's from logbooks.	8,495	23,180	45,866
2B-2	NMFS report 1; Table 18-e	1990's EDCP observed hauls for bottom trawl assumed 100% hooded.	---	3,766	25,297	47,012

Furthermore, Scenario 2B-No SFFT: “historical shelf activity” also best describes the expected geographic footprint of the fishery, which is of great importance since area of catch affects the individual stock composition for Chinook salmon. As continually emphasized by NMFS, where the bycatch occurs is equally or even more important than the total bycatch amount since it affects impacts to specific Evolutionary Significant Unit (ESU) stocks.

It is important to note that actual future impacts to Chinook salmon are likely to be considerably lower than the upper bounds of Scenario 2B-No SFFT: “historical shelf activity.” That is because the scenario assumes: (1) landings resume to 1990’s levels, which may not occur due to fleet consolidation (Figure 1) and marketing constraints; (2) only higher bycatch “hooded” bottom trawls will be used on the shelf, which is unlikely given incentives for fishermen to continue using lower bycatch rate SFFTs (i.e., less drag and greater fuel efficiency; reduced bycatch which reduces sorting times); (3) activity on the shelf will resume to the higher levels from the 1990’s before there were overfished rockfish and Pacific halibut constraints, and while shelf access is expected to increase in the future due the rebuilding of canary rockfish, other stock constraints remain (e.g., yelloweye rockfish, Pacific Ocean perch, halibut, salmon).

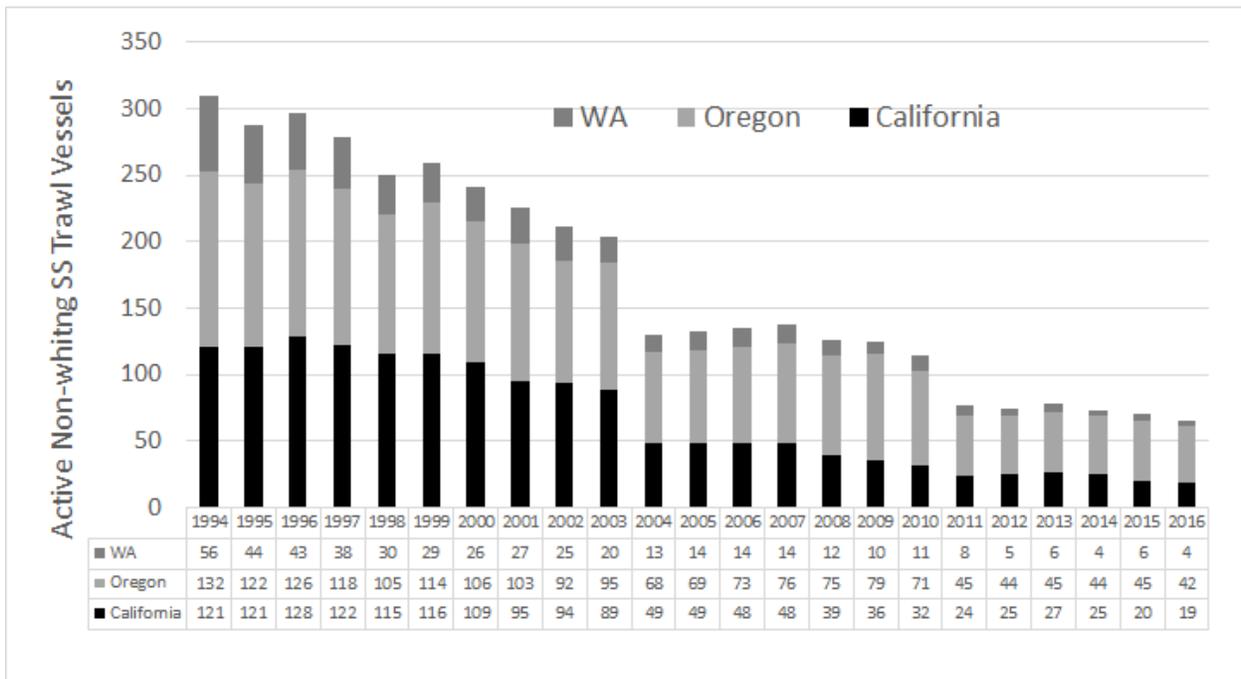


Figure 1. Number of active non-whiting shoreside trawl vessels by state and year, 1994-2016.

The GMT believes that the projections in Scenario 2B-1 may provide an estimated lower bound of Chinook salmon (with the addition of 404 fish for non-trawl), as this is based on the recent historical bycatch rates for the bottom trawl (i.e. SFFT rates) and for the midwater rockfish fishery applied to recent landings. This would result in estimated bycatch of 2,346 Chinook salmon, though this is uncertain as well. With the upcoming management changes and the additional shelf activity expected with canary rockfish being rebuilt, the number of Chinook salmon would likely exceed recent numbers (less than 1,000 per year since 2006) but may not increase substantially. Other constraints still remain (e.g. yelloweye rockfish, Pacific ocean perch), and industry has stated that many will continue to use SFFT.

While the GMT wishes we could provide a specific projection for actual non-whiting future bycatch, this is not possible given the data currently available (i.e., minimal shelf activity of which higher impacts occur during the observer era) and due to the strong influence of factors that we

can only make assumptions about (i.e., quantity of landings, type of gear, amount of shelf activity).

As we stated in March 2017 ([Agenda Item I.1.a, Supplemental Revised GMT Report](#)), the only concrete conclusion we can make is that non-whiting bycatch will likely be higher than current levels (i.e., less than 1,000 fish) but probably not more than 9,000 fish for the same reasons as stated by NMFS (i.e., fleet consolidation, greater impetus on bycatch reduction, etc.). Overall, considerable changes to the fishery would have to occur to reach the proposed 4,500, or 9,000 fish thresholds. Nevertheless, it is important to analyze the potential impacts of the desired action (i.e., 23,584), and then use mitigation measures to stay within acceptable levels, whatever they are determined to be.

Analysis of Proposed Actions Outside the Scope of Analysis

As stated above, the GMT recommends that the Council consider using Scenario 2B for the non-whiting sector since it best reflects many of changes expected in the future. However, there could be complications adopting any other actions that could cause significant changes to Chinook salmon bycatch in terms of either total bycatch or individual stock impacts. The GMT notes that there are pending actions including, coastwide year-round mid-water trawling and quota pound trading may be outside the scope of Scenario 2B as currently described.

The GMT would like to reiterate that if the opportunity arises to include additional analysis in the BiOp to provide more complete and accurate information, the GMT would be able to provide NMFS would assistance in completing this analysis.

Scenario 3 - Reserve Pool Approach

Some on the GMT feel that the reserve approach under Scenario 3 could provide flexibility to cover uncertainty in the analysis, and variations in annual bycatch. For example, whiting is expected to typically be below the current threshold of 11,000, but may periodically approach or exceed it even after mitigation measures have been implemented. Having the reserve pool could buffer those periodic high bycatch years, and thereby reduce the chance of reconsultation.

While the reserve pool could provide flexibility, there could also be several disadvantages to the reserve approach. For example, depending on how the reserve pool is set up, it could result in behavior changes within each sector. The knowledge of the reserve pool being available, could potentially entice some fishery participants to be riskier in their fishing activities, in regards to potential salmon impacts, than they otherwise might be.

An additional complication to the reserve pool is that use of the buffer would have to be evaluated in the consultation for both the whiting and non-whiting sectors as individual stock compositions could differ between sectors. Accordingly, if a buffer is used, then the whiting analysis, for example, should include Scenario 1A plus the full buffer of 4,500. On the other hand, the non-whiting sector could take the proposed 4,500 threshold plus the 4,500 reserve. **The GMT recommends that if the reserve pool approach is selected, then those additional impacts be considered to each sector and in particular to whiting (i.e., 11,000 + 4,500) and non-whiting taking the full 9,000 Chinook.**

The GMT suggests the Council consider which mitigation measures be implemented when a sector is projected to attain their Chinook threshold or when catches are faster than anticipated before the reserve can be accessed. The Council should also develop criteria that would be considered when determining when and how to use the reserve. For example, if a threshold is reached by a sector, how much of the reserve would be made available and by what process (Council action, NMFS automatic authority, etc.). The GMT recommends the Council consider the complexities associated with the reserve approach when selecting a scenario at this meeting and then further develop them when the Council reviews the draft BiOp.

Total threshold without sector caps

Alternatively, the Council could remove the whiting and non-whiting sector thresholds and manage the whole groundfish fishery using a single threshold of 20,000 Chinook salmon, or whatever threshold level, the BiOp provides. **The GMT does not recommend managing the groundfish fishery under one cap since high bycatch in either sector could jeopardize the other, reduce the incentive to reduce bycatch, and cause uneasiness to industry.**

Other Mitigation Measures

The GMT recommends that NMFS work with the GMT in developing the proposed reasonable and prudent measures, and that NMFS bring back the draft BiOp in September or November 2017. The GMT also notes that in [Agenda Item I.1.a, NMFS Report 1, March 2017](#), it was suggested that the ocean salmon conservation zone may not work as intended, and therefore should be analyzed for its effectiveness.

Potential mitigation measures could include: area or time restrictions (such as block area closures), gear regulations (e.g., salmon excluders), harvest guidelines, bycatch rate thresholds, co-op style “move-along” rules, etc. The extent of these measures would likely differ by year due to variability in bycatch rates for whiting and uncertainty with non-whiting. **The GMT recommends that NMFS consider the potential mitigation measures listed in this document plus any others identified by other advisory bodies. The GMT notes that current regulations may already allow such mitigation measures to be implemented (e.g., depth closures for midwater gear via bycatch reduction areas, adjustments of the trawl RCA); however, some measures may need further regulatory development (e.g., salmon excluders, block area closures).**

Allowances Based on Annual Chinook Salmon Abundance

Ideally, Chinook salmon allowances and mitigation measures would be dependent on the annual abundance of Chinook salmon, with lesser bycatch allowances in low salmon abundance years and higher bycatch allowances in higher years. That would be a better biological or conservation approach than using fixed thresholds regardless of Chinook salmon annual stock size. However, NMFS has not been able to find a relationship between Chinook salmon bycatch in the groundfish fisheries and that year’s salmon abundance (Section 3.3.3 [Agenda Item I.1.a, NMFS Report 1, March 2017](#)). Other factors, such as environmental conditions, are more likely to impact the salmon bycatch in the groundfish fisheries.

The GMT recognizes that there are challenges to this approach since Chinook salmon abundance forecasts are based on returns of adult fish (mainly three to five year old fish) whereas the groundfish fishery bycatch is mainly two year old fish. This means the groundfish fishery impacts

would affect “not this year, but the next two to three years” for which stock abundance estimates are uncertain. For example, while 2017 may be a low abundance year of returning adults, the groundfish impacts occurring in 2017 would be affecting 2018-2019 salmon returns, which could be in better condition. It could also work the opposite way.

Nevertheless, it is the GMT’s understanding that salmon abundances can have sustained troughs and peaks for multiple years. Accordingly, a more precautionary approach could be taken in low abundance years as this under the assumption that the next year’s abundance that are affected by this year’s fisheries could be similar poor shape. While the GMT understands that no correlation has been found to date for salmon abundance and bycatch in the groundfish fisheries, we believe that the Council could use their authority under the Magnuson Stevens Act to minimize bycatch and set HGs at amounts below the threshold dependent upon the salmon forecast. Once these HGs are reached, it could trigger implementation of a mitigation measure (e.g. time or area closure) which could either be done automatically or through a Council recommendation to NMFS.

The GMT therefore recommends that the Council consider establishing HGs by sectors based on the abundance of salmon.

Genetic Stock Identification

We have a good understanding of what to expect for the whiting sector in terms of total bycatch and individual stock impacts. For non-whiting though, we do not have an understanding of either; total bycatch is highly uncertain and individual stock impacts are unknown. While we may see some data under the trawl gear EFP or year-round mid-water EFP, **the GMT highly recommends that genetic information be collected from Chinook salmon bycatch from each trawl sector moving forward.** This way, if a consultation were to occur in the future, we would be better informed in projecting ESU impacts.

Recommendations

The GMT recommends:

- 1. For the whiting proposed action, select Scenario 1A.**
- 2. For the non-whiting proposed action, select Scenario 2B.**
- 3. For non-whiting, include information on recent regulatory updates that have been adopted by the Council, or may be expected in the near future, be included in the BiOp.**
- 4. For non-whiting projections, consider Scenario 2B-No SFFT: “historical shelf activity” (Table 1) scenario based on mean projections plus the high of 404 Chinook from the non-trawl sector that occurred in 2013. This would represent the potential “upper end” of non-whiting bycatch.**
- 5. Under Scenario 3, if the reserve pool is recommended, then those additional impacts be considered to each sector and in particular to whiting (i.e., 11,000 + 4,500 fish) and non-whiting taking the full 9,000 Chinook.**
- 6. Not to managing the groundfish fishery under one cap since high bycatch in either sector could jeopardize the other, reduce the incentive to reduce bycatch, and cause uneasiness to industry.**

- 7. That NMFS work with the GMT in developing proposed reasonable and prudent measures and that NMFS bring back the draft BiOp in September or November 2017.**
- 8. That NMFS consider the potential mitigation measures listed in this document plus any others identified by other advisory bodies. The GMT notes that current regulations may already allow such mitigation measures to be implemented (e.g., depth closures for midwater gear via bycatch reduction areas, adjustments of trawl RCA); however some measures may need further development (e.g., salmon excluders, block area closures).**
- 9. Consider establishing HGs by sectors based on the abundance of salmon.**
- 10. That genetic information be collected from Chinook bycatch from each trawl sector moving forward.**