GROUNDFISH MANAGEMENT TEAM REPORT ON AMENDMENT 21 AT-SEA SECTOR SET-ASIDES FINAL ACTION

The Groundfish Management Team (GMT) received a briefing from Ms. Jessi Doerpinghaus on the Washington Department of Fish and Wildlife (WDFW) report provided under this agenda item (Agenda Item F.7.a, WDFW Report) and offers the following comments.

As the GMT noted in our report regarding scoping intersector trawl trading (Agenda Item F.4.a, Supplemental GMT Report), revising the Amendment 21 "hard-cap" allocations to "soft-cap" set-asides would provide an effective means to increase flexibility for the at-sea sectors to obtain their allocations of Pacific whiting, and could be used as part of a more holistic approach to increase overall flexibility. Furthermore, based on the analysis provided by WDFW, the GMT believes that Alternative 1 achieves the conservation and management goals associated with the groundfish fishery management plan (FMP) and the National Standard Guidelines, and will likely alleviate some of the costs and burdens associated with bycatch avoidance measures that cannot adequately account for unforeseen "lightning strikes". **The GMT therefore recommends that the Council consider choosing Alternative 1, managing darkblotched rockfish and Pacific ocean perch (POP) as sector-specific set-asides using the Amendment 21 allocation formula in the at-sea sectors, as the Final Preferred Alternative (FPA).** If the Council recommends Alternative 1, the GMT also offers the following comments for Council consideration.

Further Considerations for Inseason Management Under Alternative 1

Nomenclature

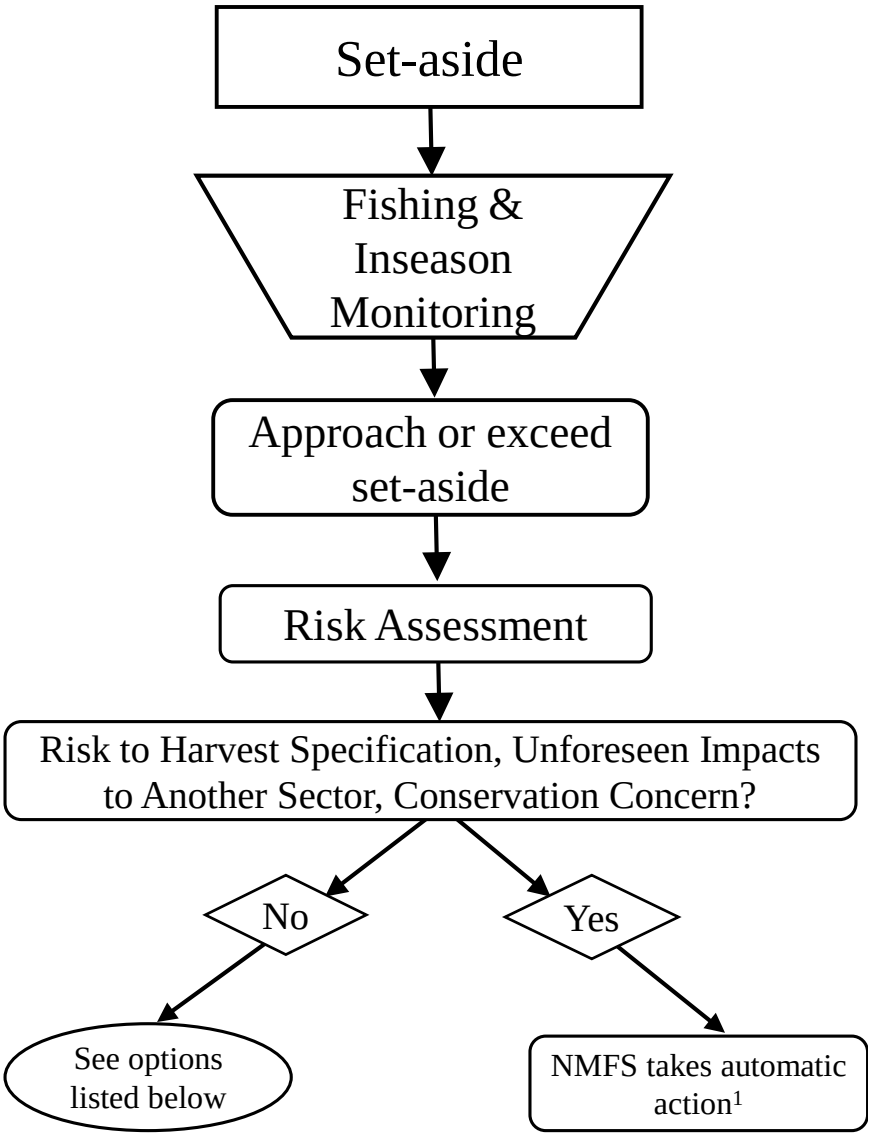
In the current management scheme, "set-asides" are generally not monitored or managed inseason. Management actions are generally only taken when there is a risk of exceeding a harvest specification, unforeseen effect on another sector, or a conservation concern. Harvest guidelines (HGs) or annual catch targets (ACTs) may be the better term for the Council's intent but are currently only limited to inseason action at Council meetings. For simplicity and continuity, the GMT is continuing to use the term "set-aside," in this statement. Regardless of the nomenclature used to refer to this "soft-cap" amount of darkblotched rockfish and POP, **the GMT recommends that, if Alternative 1 is adopted, the Council should clearly describe the situational responses for inseason management of these amounts of darkblotched rockfish and POP.**

Considerations for Inseason Management

As described in the WDFW report, one of the main considerations with the management of set-asides is the ability for the National Marine Fisheries Service (NMFS) or the Council to react inseason, limiting the potential for an overage. While the risk of exceeding the set aside values are low (given current allocations for whiting and the 2017 annual catch limits (ACLs) for darkblotched rockfish and POP), the GMT believes that more specificity is needed within the groundfish regulations for NMFS to be able to react quickly in case a series of lightning strikes, or other unforeseen events, cause the sector to exceed their set aside. Therefore, the GMT recommends the Council consider the following management proposal.

Inseason Management Proposal

It is the GMT's understanding that the Council's intent thus far in this proposed action was to give NMFS the automatic action authority to make adjustments to at-sea fishery management measures in certain circumstances. Those circumstances would parallel those already in groundfish regulations (see flowchart below), i.e. when the harvest specification is at risk of being exceeded, there is an unforeseen impact on another fishery, or if there is a conservation concern. Furthermore, there may be additional mechanisms to limit the exceedance of a set-aside, which may or may not meet the circumstances already described in regulation. To facilitate the Council discussion of situational responses for inseason management of set-aside amounts for darkblotched rockfish and POP, the GMT offers the following proposal.



1/ Under these circumstances, under Alternative 1, the Council could choose for NMFS to take automatic action.

If there is not a risk to a harvest specification, unforeseen impacts to another sector, or a conservation concern, there are several options for the Council to choose as the mechanism for NMFS to take automatic action if a sector is projected to or has already exceeded the set aside amount. The GMT examined both historical catch data from 1997-2008 and the bootstrap results presented in the WDFW Report in order to develop options for automatic action.

Historical Data

From 1997-2008, both at-sea sectors operated under a sector specific whiting allocation with no sector specific bycatch caps; therefore, this could be seen as the best indication of what bycatch might be under potential relaxed avoidance measures under Alternative 1. Figures 1 and 2 show the distribution of the daily cumulative sum of darkblotched rockfish and POP, respectively, and are intended to provide an estimate of what might happen within 24 hours, or the time it could take to reconcile the catch and react as data is uploaded to NORPAC within a day. During the majority of days explored, there were no landings of either species, and in 99 out of 100 days, landings were less than 1 mt. However, historical data does show that each sector can take multiple tons within a day, albeit infrequently.

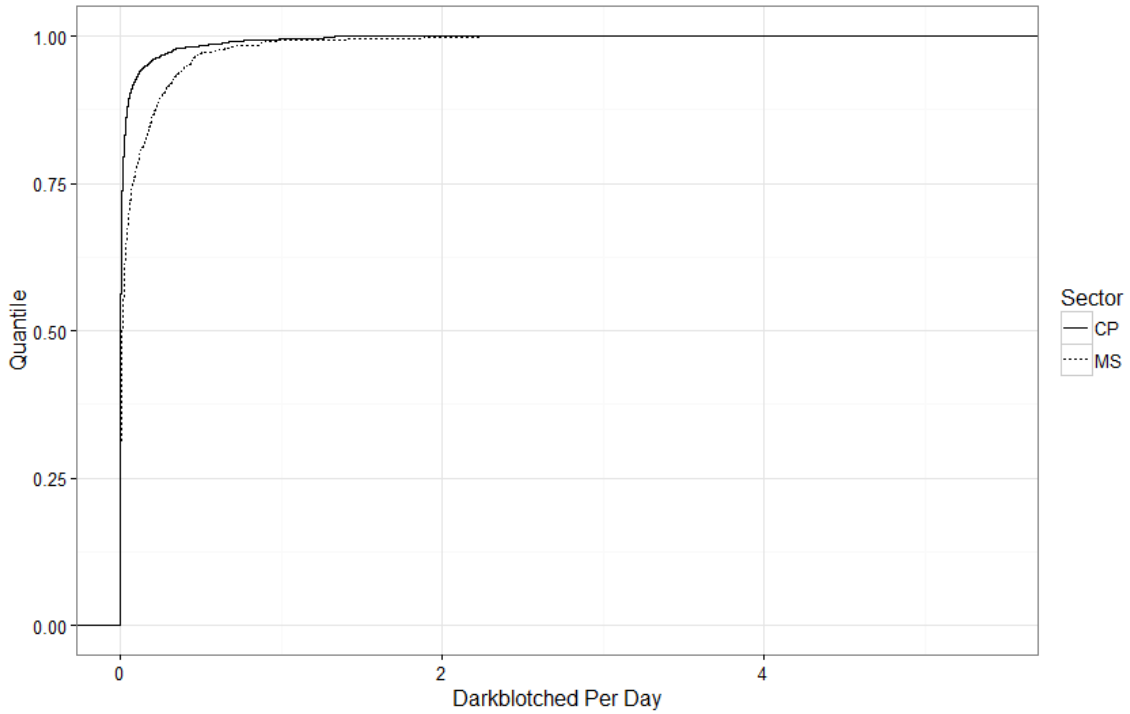


Figure 1. Distribution of daily cumulative landings of darkblotched rockfish by the at-sea sectors prior to bycatch caps (1997-2008). This figure shows that the majority of daily catches are less than 0.5 mt, but have been on rare occasions up to 6 mt for CP and ~2 mt for MS.

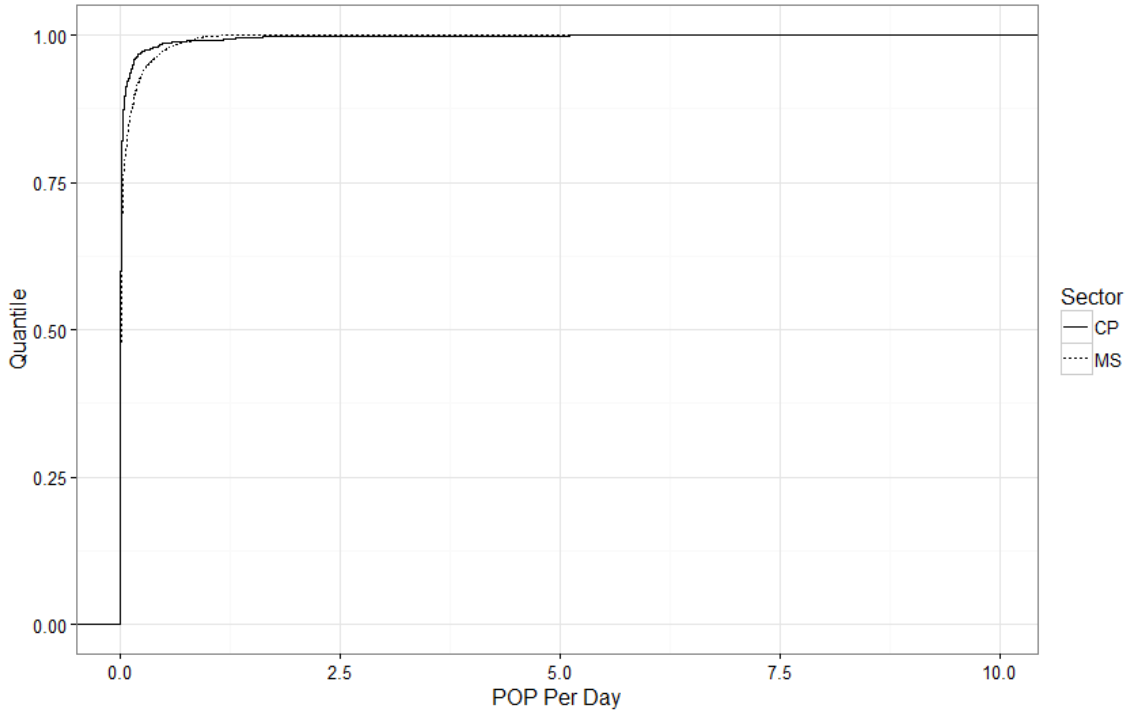


Figure 2. Distribution of daily cumulative landings of Pacific ocean perch by the at-sea sectors prior to bycatch caps (1997-2008). This figure shows that the majority of total daily catches sum to less than 0.5 mt, but have been on rare occasions up to ~10 mt for CP and ~5 mt for MS.

Table 1: Selected quantiles of daily cumulative landings (mt) by sector for darkblotched and POP. Similar to the Figures 1 and 2, this table shows that daily catches are typical low (less than 1 mt 99 percent of the time), but have been much higher in rare circumstances.

Quantile	Darkblotched Rockfish		POP	
	CP	MS	CP	MS
0.5	0	0.01	0	0
0.75	0.01	0.08	0.01	0.03
0.9	0.06	0.26	0.05	0.16
0.99	0.67	0.9	0.75	0.79
0.9999	5.41	2.43	9.93	1.24

Bootstrap Simulations

To provide additional information in evaluating an option for when an automatic action is necessary, the Council should refer to Tables 4 and 6 under Scenario 4 in the WDFW Report which show the results of the bootstrap when only the whiting allocation was used as a closure for each sector. Furthermore, Table 9 shows the results of the bootstrap simulation for differences in

combined catch and allocation (i.e. the probability of how much the sectors could exceed their combined allocation).

The GMT provides the Council with the following options to provide NMFS with direction on when to take automatic inseason action.

Option A: Transfer from off-the-top deduction or other at-sea sector
Currently, the Council can move unused off-the-top deductions (i.e. research, buffer) to any sector during routine inseason action. Currently, the NMFS Regional Administrator can move allocations between at-sea sectors if one sector has concluded fishing for the season. In 2014, the Regional Administrator moved allocations based on a sector commitment to cease fishing when a portion of the allocation was attained (the catcher/processor sector in 2014, darkblotched rockfish). Note that Option A could be considered and selected with the following options.

Option B: Set-aside is projected to be achieved or exceed by a **specific amount**.
The Council could direct NMFS to take inseason action to institute either a bycatch reduction area (BRA) or a closure if the set aside is exceeded by a specific amount of tonnage. The GMT recommends the Council consider a 5 metric ton overage allowance for each sector and species. This would account for a majority of the high daily catches during the era without bycatch caps (Figures 1 and 2; Table 1) and would increase the chances of attaining the whiting allocations per the bootstrap simulation results.

Option C: Set-aside is projected to be achieved or exceed by a **specific portion of the buffer**
In 2017 and 2018, there is a 50 mt buffer for darkblotched rockfish and 25 mt buffer for POP for unforeseen groundfish mortality events. As shown in Table 9, the "worst case" overage, or the 1-in-10,000 chance, of both sectors exceeding the combined set aside value is 9.5 mt for darkblotched rockfish and 50.7 mt for POP. There is a 1-in-20 chance that the sectors will reach a combined 13.9 mt over the allocations.

Therefore, the Council could consider recommending that NMFS take action when a sector is projected to attain, or exceed, 10 mt of darkblotched rockfish, or 1/5th of the buffer. For POP, the buffer is half of the "worst case" simulated season; however, the Council could consider a 15 mt allowance over the set aside amount for POP.

Option D: Set-aside is projected to be achieved or exceed by a **specific percentage of the set aside amount**
Additionally, the Council could consider recommending a specific percentage for automatic action based on the set-aside amount. The GMT notes that by the Council selecting a percentage for a reaction mechanism, the values can change automatically with the changes in ACLs.

Table 2 shows the allocations for darkblotched rockfish and POP by sector for 2017 and 2018, and the resulting amount if they were allowed to exceed by a certain percentage.

Table 2: At-Sea Sector Set Asides for 2017 with Range of Percentage Alternatives

Species	Sector	Set Aside Amount	25%	50%	75%
Darkblotched Rockfish	CP	16.4	20.50	24.60	28.70
	MS	11.7	14.63	17.55	20.48
POP	CP	12.7	15.88	19.05	22.23
	MS	9.0	11.25	13.50	15.75

Again, the risk of either sector exceeding the set-aside amount for either species is minimal. **However, the GMT recommends that the Council consider instituting the described pathway and one of the presented options for response.**

GMT Recommendations:

- **The Council consider choosing Alternative 1, managing darkblotched rockfish and Pacific ocean perch (POP) as sector-specific set-asides using the Amendment 21 allocation formula in the at-sea sectors, as the Final Preferred Alternative (FPA).**
- **That, if Alternative 1 is adopted, the Council should clearly describe the situational responses for inseason management of these amounts of darkblotched rockfish and POP.**
- **The Council consider instituting the described pathway and one of the presented options for response.**

PFMC
09/18/16