

GROUND FISH MANAGEMENT TEAM REPORT ON THE 2017-2018 BIENNIAL HARVEST SPECIFICATIONS AND MANAGEMENT MEASURES

Under the first part of Agenda Item G.4 at this meeting, the Council gave guidance to the Groundfish Management Team (GMT) to consider [Agenda Item G.2.a, Supplemental WDFW Report 3](#) relative to the buffer approach recommended by the GMT and the Groundfish Advisory Subpanel (GAP). Specifically, it is the GMT's understanding that the Council is interested in a higher annual catch limit (ACL) than what was selected in April with an approach that would increase the amount of Pacific ocean perch (POP) in the off-the-top deduction from the ACL (i.e. "buffer"), to account for unforeseen catch events.

The Washington Department of Fish and Wildlife (WDFW) report proposed examining an ACL of 388 mt for 2017 and 175 mt for 2018 (WDFW Alternative 1). To provide the Council with a range of ACL alternatives, the GMT considered an intermediate alternative (GMT Alternative 2) between what was proposed in GMT Alternative 1 ([Agenda Item G.4.a, Supplemental GMT Report 2](#)) and WDFW Alternative 1. GMT Alternative 2 would set the ACLs at the average of the proposed 2017 and 2018 ACLs from the WDFW Alternative 1, which would result in a 281 mt ACL for both 2017 and 2018.

The GMT notes that the current analysis in Attachment 2 ([Agenda Item G.4, Attachment 2](#)) analyzed a POP ACL of 171 mt, and any changes to the POP ACL may require further analysis. NMFS staff also indicated that while the POP ACL alternatives in this document are within the range of the 2015-2016 Environmental Impact Statement (EIS), National Environmental Policy Act (NEPA) scoping has not been completed on the new alternatives in this document.

Rebuilding Plan Considerations

The Council should consider new information, since the last modification of the POP rebuilding plan in June 2012 for the 2013-2014 cycle, and the Magnuson-Stevens Act (MSA) rebuilding plan requirements, when considering a change to the existing rebuilding plan. As discussed extensively under Agenda Item G.2 and G.4, there have been increased encounters of POP recently, including a "lightning strike" tow earlier this month, and several high bycatch hauls in the mothership (MS) sector causing the sector to be at 69.3 percent of their POP allocation, while only taking 36.6 percent of their whiting allocation.

Time to Rebuild (T_{target}) and Probability of Rebuilding

GMT Alternative 1 ([Agenda Item G.4.a, Supplemental GMT Report 2](#)) would require changes to the rebuilding plan by changing the spawning potential ratio (SPR) harvest rate from 0.864 to 0.858, which also results in slight changes to the probability of rebuilding by T_{target} and T_{max} (Table 1). GMT Alternative 2 and WDFW Alternative 1 would maintain the SPR harvest rate and not require a change to the rebuilding plan (including T_{target}), but would slightly change the probability of rebuilding by T_{target} and T_{max} (Table 1).

Table 1. Ten year rebuilding projections under the POP ACL alternatives.

	Current rebuilding plan (ACL=171 mt)		GMT Alternative 1 (180 ACL to allow for buffer)		GMT Alternative 2 (281 in 2017-2018)		WDFW Report 3 (388 in 2017, 175 2018)	
SPR	0.864		0.858		0.864		0.864	
T50%	2051		2051		2051		2051	
P2045	39.40%		38.90%		39.30%		39.30%	
P2071	73.60%		72.90%		73.30%		73.30%	
	ACL	OFL	ACL	OFL	ACL	OFL	ACL	OFL
2017	171	961	180	961	281	964	388	964
2018	176	985	184	985	281	981	175	981
2019	179	1,006	188	1,005	178	1,001	178	1,001
2020	182	1,023	191	1,022	182	1,018	182	1,018
2021	185	1,040	194	1,039	185	1,036	185	1,036
2022	189	1,059	198	1,057	188	1,055	188	1,055
2023	192	1,079	202	1,077	192	1,075	192	1,075
2024	195	1,096	205	1,094	195	1,092	195	1,092
2025	199	1,117	209	1,115	198	1,113	198	1,113
2026	203	1,140	213	1,137	203	1,137	203	1,137

While none of the alternatives affect the time to rebuild, the change in the SPR rates in GMT Alternative 1, as well as the higher 2017 and 2018 ACLs in WDFW Alternative 1 and GMT Alternative 2, have different effects on the ten year projections. By decreasing the SPR rate from 0.864 to 0.858, under GMT Alternative 1, all of the ACLs increase over the projection period, as there are more fish allowed to be taken out of the water consistent with lowering the SPR rate. WDFW Alternative 1 and GMT Alternative 2 cause minor reductions in the ACLs in some years compared to GMT Alternative 1 (Table 2). While [Supplemental WDFW Report 3](#) only included the rebuilding projections from WDFW Alternative 1, the rebuilding analysis for both the WDFW Alternative 1 and GMT Alternative 2 would remove 563 mt over the two-year period (2017 and 2018). This would therefore result in the same ACL and OFL projections, probability to rebuild, and time to rebuild.

However, WDFW Alternative 1 and GMT Alternative 2 could be considered more “risk averse” than GMT Alternative 1. Under GMT Alternative 1, it is assumed that you are removing fewer fish at the beginning of the time series, and therefore have access to more fish in later years. For example, the total stock of available POP could be seen as money in a bank account. Under GMT Alternative 1, less money is removed now, which increases funds available in subsequent years. However, under WDFW Alternative 1 and GMT Alternative 2, a larger amount is removed earlier (i.e. 2017-2018), which slightly reduces available funds in the future. GMT Alternative 2 and WDFW Alternative 1 would be similar to a bank loan, which requires amortized repayment over the remaining rebuilding years, thereby, reducing the balance in future years.

Impacts of the ACL Alternatives

Based on status quo Amendment 21 allocations, Table 2 shows the allocations that would be in place under WDFW Alternative 1 (388 mt in 2017 and 175 in 2018), GMT Alternative 1 (180 mt in 2017 and 181 in 2018), and GMT Alternative 2 (281 mt in both 2017 and 2018), with and without the buffer implemented, as well as the unassigned allocation which results from implementing the buffer. The buffers that could therefore be deducted from the ACL would be 217 mt for 2017 for the WDFW Alternative 1 (FPA of 175 mt for 2018). The original buffers presented by the GMT (GMT Alternative 1) were 9 mt and 8 mt respectively for 2017 and 2018 ([Agenda Item G.4.a, Supplemental GMT Report 2](#)). Finally, the buffers deducted from the ACL would be 110 mt and 105 mt in 2017 and 2018, respectively, for GMT Alternative 2.

By selecting GMT Alternative 1 or 2, there is buffer available in both years that could be moved, through routine inseason action, unlike in WDFW Alternative 1 there would only be a large buffer in 2017 and no buffer in 2018.

Also, as stated in GMT Report 2, there are no additional projected impacts under the WDFW Alternative 1 or GMT Alternative 2, compared to the PPA POP ACL, because the buffer is not guaranteed to be released, and it would be impractical and inefficient to design fishing operations based on potential access to the buffer. Providing a buffer in the manner described above has the same impacts as described under Alternative 3 in Chapter 4 (which combines the April ACLs with preliminary preferred management measures), because the allocations would be the same as under WDFW Alternative 1 and GMT Alternative 2 with the buffer. However, if the buffer were to be entirely released, these anticipated impacts have not been analyzed. The GMT took an initial look at potential biological and habitat impacts of releasing the entire buffer under each alternative. The GMT findings from that discussion are described below.

Table 2. Comparison of the POP allocations under all alternatives with and without buffers.

Harvest Specification	WDFW Alternative 1		WDFW Alternative 1 (with buffer)		Unassigned Allocation with Buffer		GMT Alternative 1		GMT Alternative 1 (with Buffer)		Unassigned Allocation with Buffer	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
OFL	961	985	961	985	0	0	961	985	961	985	0.0	0
ABC	919	942	919	942	0	0	919	942	919	942	0.0	0
ACL	388	175	388	175	0	0	180	184	180	184	0.0	0
Research, EFP, Tribal, IOA	24.4	24.4	24.4	24.4	0	0	24.4	24.4	24.4	24.4	0.0	0
Buffer	N/A	N/A	217	0	217	0	N/A	N/A	9.0	8	9.0	8
HG	363.6	150.6	146.6	150.6			155.6	159.6	146.6	151.6		
Trawl	345.4	143.1	139.3	143.1	206.1	0	147.8	151.6	139.3	144	8.5	7.6
-Shorebased IFQ	311.4	125.7	121.9	125.7	189.5	0	130.4	134.2	121.9	127	8.5	7.2
-CP	20	10.2	10.2	10.2	9.8	0	10.2	10.2	10.2	10.2	0.0	0.0
-MS	14.1	7.2	7.2	7.2	6.9	0	7.2	7.2	7.2	7.2	0.0	0.0
Non-Trawl	18.2	7.5	7.3	7.5	10.9	0	7.8	8	7.3	7.6	0.5	0.4

Table 2. cont.

Harvest Specification	GMT Alternative 2		GMT Alternative 2 (with buffer)		Unassigned Allocation with Buffer	
	2017	2018	2017	2018	2017	2018
OFL	961	985	961	985	0	0
ABC	919	942	919	942	0	0
ACL	281	281	281	281	0	0
Research, EFP, Tribal, IOA	24.4	24.4	24.4	24.4	0	0
Buffer	N/A	N/A	110	105	110	105
HG	256.6	256.6	146.6	151.6		
Trawl	243.8	243.8	139.3	144	104.5	99.8
-Shorebased IFQ	219.7	219.7	121.9	127	97.8	92.7
-CP	14.1	14.1	10.2	10.2	3.9	3.9
-MS	9.9	9.9	7.2	7.2	2.7	2.7
Non-Trawl	12.8	12.8	7.3	7.6	5.5	5.2

Potential Biological and Habitat Impacts of Increasing the ACL (Considering the release and use of the buffers)

If POP impacts to all sectors were within the allocation and the buffer did not need to be utilized, then there would be no additional impacts to groundfish or protected species from those associated with the April FPA. However, if the buffer were to be released, it could result in additional fishing activity and thus increase impacts to groundfish and protected species. Release of the buffer would only be expected for trawl fisheries, as take of all non-trawl fisheries (fixed gear and recreational) have been less than 0.5 mt per year recently, which is approximately fifteen fold below their allocations. As such, potential impacts associated with release of the buffer focused on the trawl fisheries, as they are the most likely fisheries to need and use the buffer.

The GMT reviewed available data sources (e.g., NORPAC and WCGOP) to evaluate concerns relative to higher Chinook salmon bycatch in response to a higher POP ACL, and does not expect additional Chinook salmon impacts. There did not appear to be a positive relationship between POP and Chinook salmon encounters in observed tows for the at-sea Pacific whiting sectors or in the IFQ fisheries by area (which could not be shown since data confidentiality rules prevent showing individual hauls). Further, it appeared as if there was an inverse relationship between the two species (i.e., higher POP encounters corresponded with lower Chinook salmon encounters, and vice versa). Given this inverse relationship between the two species, there would likely be little to no increase in Chinook catch resulting from release of the buffer.

In addition, no additional impacts are expected for other protected species. Encounters of turtles, birds, whales, and other marine mammals are very low for trawl (Jannot et al. 2009). Finally, release of the buffer is also not expected to increase impacts to eulachon, as the number of boats using midwater gear is not expected to increase and neither are the number of tows as a result of the allocation increase. The number of tows is directly related to the whiting aggregations, (i.e., if whiting is schooled then there would be a low number of tows needed to attain allocations).

The GMT also considered effects to other groundfish that co-occur with POP in the event that the buffer were to be released and used. If the buffer was released to whiting sectors (MS, CP, and shoreside), attainments would be expected to increase for whiting, as well as their customary bycatch species such as darkblotched, canary, widow, and yellowtail rockfishes. However, projected impacts to these bycatch species would be expected to be low and within the allocations as the whiting sectors have typically attained most of their whiting allocations with their historical POP allocations, and thus may only need to utilize the buffer for unforeseen catch events (e.g., recent lightning strikes of POP in the MS sector).

While non-whiting bottom trawl vessels fishing on the slope are constrained by sablefish in accessing their Dover sole and thornyhead components of DTS, public comment also mentioned that sablefish is only constraining due to limited amounts of POP forcing vessels to move deeper. As such, there may or may not be additional impacts expected for benthic slope stocks (e.g., darkblotched rockfish). Since POP are predominately a slope species, the POP buffer would also not be expected for the shelf bottom trawl fishery, and as such, there are no expected impacts to benthic shelf species associated with the release of the buffer. Also as noted in the GMT report ([Agenda Item G.4.a, Supplemental GMT Report 2](#)), POP has the potential to constrain the harvest potential of the mid-water trawl fishery for widow and yellowtail

rockfish. As such, release of buffer to that fishery would be beneficial because it could increase attainments of these healthy, underutilized stocks. While increases to canary rockfish, the main bycatch species of the mid-water rockfish fishery, would also be expected to increase if the buffer was used, the increased PPA two-year allocation of canary rockfish (~1,000 mt) is projected to be greater than needed for them to obtain their full allocations of their targets (i.e., widow and yellowtail rockfishes). Accordingly, there are no apparent concerns with release of the POP for mid-water rockfish stocks.

Since release of the buffer is only expected to increase activity in mid-water trawl fisheries (i.e., whiting and mid-water rockfish) and not increase bottom trawling activity, no additional habitat effects are expected with release of the buffer.

Alternatives Considered but Rejected

The GMT also explored a fishery harvest guideline (HG) higher than the GMT alternative presented in [Agenda Item G.4.a, Supplemental GMT Report 2](#), but lower than Alternative 2, in order to consider public comment that asked the Council to consider providing more allocation to the sectors while still providing for a sufficient deduction from the ACL to account for unforeseen mortality (e.g., a buffer of 55 mt compared to 110 mt under an ACL of 281 mt). If there was a buffer of 55 mt in 2017 as opposed to 110 mt and assuming the same non-tribal off-the-top deductions of 24.4 mt, the resulting fishery HG would be 201.6 mt. Based on the status quo Amendment 21 allocations, there would be less than one additional mt allocated to the at-sea sectors compared to the Council's current PPA. The GMT therefore did not retain this option for consideration.

Recommendation

The GMT recommends the Council consider the above analysis of impacts in selecting a FPA POP ACL. If the buffer approach is selected, the buffer could be made available to a sector through routine inseason action if it is projected to or actually exceeded its allocation or HG.

PFMC
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