#### GROUNDFISH MANAGEMENT TEAM REPORT ON INSEASON ADJUSTMENTS-DEVELOPING CRITERIA FOR RELEASING THE PACIFIC OCEAN PERCH, DARKBLOTCHED ROCKFISH, AND CANARY ROCKFISH BUFFERS TO THE AT-SEA SECTORS

In April, the Council asked the Groundfish Management Team (GMT) to develop potential alternatives for criteria for inseason distribution of the Pacific ocean perch (POP), darkblotched rockfish, and canary rockfish buffers for June (Agenda Item F.6, Council Motions, April 2017). After some consideration, the GMT believes there is a need to assess this for darkblotched rockfish and POP. However, the GMT does not believe there is a need to spend time developing criteria to release the canary buffer, at this time, as there is a low risk of any sector exceeding their allocations. If a situation arises over the summer, the GMT can examine this in September under inseason. Below, the GMT describes the framework for allocating off-the-top deductions (which includes the buffers), the current status of the at-sea fleet, and options for Council consideration of releasing the buffer.

# Background

# **Council Intent on Establishing Buffers**

During the setting of the 2017-2018 harvest specifications and management measures, the Council created buffers for canary and darkblotched rockfish and POP as "a new category of yield to the off-the-top deductions to account for unforeseen catch events, and the amounts deducted would be available for distribution through routine inseason action" (81 FR 75266).

The GMT reviewed the Council recordings from June 2016 to recount the rationale for selecting the buffers as the final preferred alternative (FPA) for 2017 and 2018. Specifically, Mr. Anderson, the maker of the motion, spoke to how the "main consideration when developing buffers was the needs of fishing communities, particularly the at-sea whiting sectors, and their risk of exceeding their respective darkblotched or POP allocations, which would result in significant loss of revenue and impacts to jobs and communities." These buffers were to be used for "unforeseen catch events in any sector," with an "expectation that each sector be managed to its allocation and should not rely on accessing the buffer inseason unless there truly are unforeseen catch events."

The GMT's interpretation of this discussion prompted the GMT's proposal in April for developing criteria for release of the off-the-top deduction for unforeseen catch events (a.k.a. buffer). Currently, the buffer can only be released during routine inseason action at a Council meeting. If a lightning strike were to occur between Council meetings (similar to the darkblotched situation in October 2014), there would be no mechanism for National Marine Fisheries Service (NMFS) to automatically release the buffer. Instead, two management options would be available: the sector could cease fishing until the next Council meeting, resulting in negative economic consequences to the sector and coastal communities, or another emergency Council meeting could be held. Creating criteria for NMFS to automatically release a portion of the POP or darkblotched rockfish buffers to any sector meets our interpretation of the intent of the buffer, while also providing a more flexible inseason action to access it.

#### **Factors for Consideration When Releasing a Buffer**

As in our April statement (Agenda Item F.6.a, Supplemental GMT Report, April 2017), the GMT would like to remind the Council that, as described in the groundfish regulations at 50 CFR 660.60(c)(3)(2), "Non-tribal deductions from the ACL," there are specific criteria for reallocating unused deductions from the annual catch limit (ACL):

"Changes to the non-tribal amounts deducted from the TAC [total allowable catch], ACLs, or ACT [annual catch target] when specified, described at § 660.55(b)(2) through (4) and specified in the footnotes to Tables 1a through 1c, and 2a through 2c, to subpart C, have been designated as routine to make fish that would otherwise go unharvested available to other fisheries during the fishing year. Adjustments may be made to provide additional harvest opportunities in groundfish fisheries when catch in scientific research activities, non-groundfish fisheries, and EFPs are lower than the amounts that were initially deducted off the TAC, ACL, or ACT when specified, during the biennial specifications or to allocate yield from the deduction to account for unforeseen catch events to groundfish fisheries. When recommending adjustments to the non-tribal deductions, the Council shall consider the allocation framework criteria outlined in the PCGFMP [Pacific Coast Groundfish Fishery Management Plan] and the objectives to maintain or extend fishing and marketing opportunities taking into account the best available fishery information on sector needs."

Therefore, the potential need for any sector to access the buffer this year must be evaluated when establishing criteria for release of the buffer to the at-sea sectors. Below, the GMT discusses the current projections for each sector for both species, and the probability of exceeding a sector's allocation.

# **Progress to Date of the 2017 Fisheries**

#### **Conservation and Economic Impetus for Releasing Buffer**

In April, there were several discussions about the conservation and economic needs to develop criteria for possible release of the buffers.

The conservation impetus is to reduce impacts to Klamath River fall Chinook (KRFC) salmon. Abundance of these salmon are projected to be at historically low levels for 2017: "The age-3 ocean abundance forecast is the second lowest on record. The age-4 forecast is the lowest on record, less than half of the previous lowest forecast" (Preseason Stock Abundance Forecast; March 2017). The low KRFC forecast resulted in closure of the direct salmon troll fisheries in the Klamath Management Zone (KMZ), which is bordered on the north by 42° 40.30' N. lat. However, the southern part of Oregon near Port Orford, north of 42° N. lat., allows at-sea processing.

Per meetings between the at-sea whiting and salmon troll representatives at the April Council meeting, the at-sea whiting sectors stated that they would voluntarily fish north of the KMZ to the extent practicable. However, this could increase their bycatch of POP, as the spatial range of POP is more northerly. Therefore, when the Council requested that the at-sea sectors avoid salmon in April, they recommended that NMFS allocate an additional 3.5 mt of POP to the mothership (MS) sector and 3.5 mt to the catcher processor (CP) sector as soon as possible, by adjusting the

Incidental Open Access set-aside. To date, the at-sea sectors have fished outside of the KMZ, and, as of June 11, 2017, have only landed 121 Chinook salmon total.

There is also an economic need to increase the likelihood that the at-sea whiting sectors can obtain their allocations of the 2017 whiting TAC of 441,433 mt. This total allowable catch is much larger than the 367,553 mt that was analyzed in the 2017-2018 harvest specifications and management measures, or the 408,260 mt analyzed as the upper level in the 2015-2016 Tier Environmental Impact Statement. Accessing the buffers should help reduce the sector's high variable costs resulting from moving to avoid Chinook salmon, as well as other constraining species, like POP and darkblotched rockfish.

### **Current Status of At-Sea Sectors**

On May 12, 2017, the transfer of POP from the Incidental Open Access sector was effective, resulting in a new POP allocation of 16.2 mt for the CP sector and 12.5 mt for the MS sector (<u>NMFS-SEA-17-11</u>). Table 1 shows the current attainment of the four constraining species and Pacific whiting against the revised allocations through June 11, 2017.

Species		СР		MS			
Species	Landings	Allocation	Attain. (%)	Landings	Allocation	Attain. (%)	
Canary RF	0.7	16.0	4.3%	0.8	30.0	2.7%	
Darkblotched RF	4.3	16.4	26.0%	0.9	11.8	7.6%	
POP	8.3	16.2	51.1%	2.5	12.5	20.2%	
Widow RF	194.6	411.2	47.3%	14.8	290.3	5.1%	
Whiting	39,373.5	123,312	31.9%	19,334.0	87,044	22.2%	

Table 1: Current landings and allocations (in mt), as well as attainment (in percent), of Pacific whiting and Amendment 21 species for at-sea sectors through June 11, 2017.

Table 2 shows the landings through June 11 for each year from 2011 through 2017. As shown in Table 2, landings in 2017 are higher than previous years for darkblotched, POP (except MS in 2016), and widow (for CPs only).

Sector	Species	2011	2012	2013	2014	2015	2016	2017
	Canary	0.15	0.19	0.16	0.01	0.02	0.03	0.68
	Darkblotched	0.52	0.89	0.98	2.07	0.59	1.23	4.26
СР	POP	1.12	2.55	3.89	0.16	0.03	0.35	8.28
	Widow	7.63	4.64	9.70	1.41	0.17	11.56	194.57
	Whiting	24,464.13	20,341.23	28,075.49	33,248.81	40,964.87	42,480.59	39,373.49
	Canary	0.04	0.05	0.32	0.17	0.13	0.31	0.82
	Darkblotched	0.58	0.58	1.00	0.74	1.72	0.43	0.90
MS	POP	0.15	0.12	0.91	2.77	1.08	4.86	2.53
	Widow	7.91	2.00	2.44	31.13	16.47	41.50	14.83
	Whiting	13,756.84	7,017.74	7,190.86	18,082.29	19,129.84	22,957.70	19,334.01

Table 2: At-sea landings (in mt) through June 11 from 2011-2017.

Based on a bycatch rate approach using catches to date (June 11), the CP sector as a whole would need an additional 9.8 mt of POP (Table 3). The MS sector as a whole is currently not facing deficits. However, the bootstrap analysis below better frames the probability that both the at-sea sectors could be facing deficits.

While the CPs are in predicted to be in deficit for widow rockfish at the current bycatch rate, the GMT would like to note that there is currently no widow buffer. Therefore, we focused our discussion on darkblotched rockfish and POP going forward.

Table 3: Amounts (mt) of Amendment 21 species needed to attain the remaining whiting, and associated surplus or deficit based off the current bycatch rates.

	СР		MS		
Species	mt needed to catch remaining whitingSurplus/ Deficit		mt needed to catch remaining whiting	Surplus/ Deficit	
Canary RF	2.19	13.81	3.60	26.40	
Darkblotched RF	13.47	2.93	4.05	7.75	
РОР	25.99	-9.79	11.26	1.24	
Widow RF	609.46	-198.26	66.63	223.67	

During the harvest specification process for the 2017-2018 biennium, the at-sea bootstrap methodology was used to assess the probability of exceeding a sector allocation based on the 2015 TAC. For both sectors, there was little to no risk of exceeding the canary or widow allocations. The CP sector only had a 1 in 10 chance of exceeding their initial POP allocation (12.7 mt) and a 1 in 100 chance of exceeding their darkblotched allocation. For the MS sector, there was a 1 in 20 chance of exceeding the darkblotched or initial POP allocation (9.5 mt). Both sectors were projected to attain all of their whiting allocations with these allocations in at least 75 percent of the simulations (Tables 4-106 and 4-107 in the Analytical Document).

Using the at-sea bootstrap methodology, with catch data through June 11, Tables 4-7 show the distribution of projected catches of all four constraining species and Pacific whiting under the following scenarios: 2000-2016 haul data (Table 4); 2009-2016 haul data (Table 5); 2000-2016 haul data from above 44° N. lat.( Table 6); and 2000-2016 haul data from above 45.16° N. lat. (OR/WA border; Table 7). One of the assumptions of the bootstrap method is that it uses historical data to predict future trends, which may or may not be reflective of the current situation, especially with data that spans the entire coast (north of 42° N. lat.). With the at-sea fleet fishing north to avoid Chinook impacts, the Council may want to consider the probabilities under Table 6 and Table 7. The GMT chose these breaks because the salmon troll fishery is closed south of 44° N. lat. and there is a known higher abundance of POP north off the Washington/Oregon border. Industry has stated that there are good whiting conditions present off of Washington and Oregon, with an older, and therefore larger, year class off of Washington. However, the West Coast is the tail-end of the POP distribution, with Washington having a large population off its coast and therefore positive hauls rates tend to be higher.

Sector	Species	Quantile								
Sector	species	0.01	0.25	0.5	0.75	0.9	0.95	0.99	0.9999	
	Canary	0.6	0.7	0.9	1.1	1.8	3.7	5.1	7.4	
СР	Darkblotched	4.4	6.8	8.6	10.9	13	14.9	16.9	18.7	
	POP	8.8	9.8	13.1	16.2	16.7	17.5	19.1	20.4	
	Widow	112.3	123.3	141	187.1	223.1	288.4	451.3	489.8	
	Whiting	42,943	104,890	123,312	123,312	123,312	123,312	123,312	123,312	
	Canary	0.9	1.1	1.6	2.4	3.2	5.3	17.1	32.8	
MS	Darkblotched	0.9	2.7	5.3	7.5	10.4	11.4	12.1	14.4	
	POP	2.8	3.7	5.4	7.6	10.1	12.6	13.4	15	
	Widow	15.2	45.1	67.3	91.8	127.6	202.7	255.6	295.1	
	Whiting	36,229	87,044	87,044	87,044	87,044	87,044	87,044	87,044	

Table 4: At-Sea Bootstrap Simulation Results using 2000-2016 haul level data (shaded cells indicate the sector-specific allocation would be exceeded).

Sector	Species	Quantile								
Sector	species	0.01	0.25	0.5	0.75	0.9	0.95	0.99	0.9999	
	Canary	0.7	0.8	0.9	1.1	1.3	1.4	1.7	2.1	
СР	Darkblotched	4.5	6.3	7	8.6	14	16.4	17.4	18.5	
	POP	8.4	8.7	12.2	14.5	16.2	16.6	19.2	20.4	
	Widow	197.2	203.2	210.8	240.1	269	285.8	319.7	392.4	
	Whiting	70,973	123,312	123,312	123,312	123,312	123,312	123,312	123,312	
	Canary	0.9	1.1	1.2	1.3	2.4	2.5	2.7	2.8	
MS	Darkblotched	1.4	2.6	3.8	6.5	7.9	9.4	12.2	14.5	
	POP	3.2	4.2	6.1	8.3	12.6	12.8	14	15	
	Widow	27.3	36.8	56.2	79.2	93.5	103.6	126.2	170.3	
	Whiting	37,512	87,044	87,044	87,044	87,044	87,044	87,044	87,044	

Table 5: At-Sea Bootstrap Simulation Results using 2009-2016 haul level data (shaded cells indicate the sector-specific allocation would be exceeded).

Table 6: At-Sea Bootstrap Simulation Results using 2000-2016 haul level data limited to hauls north of 44° N. lat. (shaded cells indicate the sector-specific allocation would be exceeded).

Sector	Species	Quantile								
Sector	species	0.01	0.25	0.5	0.75	0.9	0.95	0.99	0.9999	
	Canary	0.7	1	1.1	1.3	1.8	2.2	3.1	7.2	
СР	Darkblotched	4.3	5.2	6.6	8.4	12.5	15.3	17.1	18.5	
	POP	8.3	9.5	12.9	16.3	16.9	17.8	19.4	20.4	
	Widow	195.3	214.1	237.2	275.3	317.3	384.2	414.1	435.5	
	Whiting	49,179	100,937	123,312	123,312	123,312	123,312	123,312	123,312	
	Canary	0.9	1.4	1.7	2	3	13.1	32.6	32.7	
MS	Darkblotched	0.9	1.6	2.8	4.3	7.2	9.3	10.7	12.6	
	POP	2.5	3	5	7.6	12.6	13	14	15	
	Widow	17.6	45	78.6	115	160.5	203.2	251.2	295.1	
	Whiting	31,943	87,044	87,044	87,044	87,044	87,044	87,044	87,044	

Sector	Spacios	Quantile								
Sector	species	0.01	0.25	0.5	0.75	0.9	0.95	0.99	0.9999	
	Canary	0.7	0.9	1.1	1.8	2.4	3	3.8	6.9	
СР	Darkblotched	4.3	4.3	4.9	5.4	6.4	7.1	8.2	10.6	
	POP	8.3	9.9	15.7	16.4	17.1	17.9	19.1	20.3	
	Widow	194.7	196.9	211.6	251.8	334.3	411.6	413.3	413.8	
	Whiting	40,860	61,722	117,478	123,312	123,312	123,312	123,312	123,312	
	Canary	0.9	1.5	1.7	2.4	3.3	4.4	4.9	5.5	
MS	Darkblotched	1.3	1.6	2.2	3.7	7	10	11.8	12.8	
	POP	2.6	4.9	8	12.5	12.8	13.3	14.2	15	
	Widow	22.6	37.2	52.4	81.9	124.1	231	280.7	299.9	
	Whiting	30,125	84,134	87,044	87,044	87,044	87,044	87,044	87,044	

Table 7: At-Sea Bootstrap Simulation Results using 2000-2016 haul level data limited to hauls north of 46° 16' N. lat. (shaded cells indicate the sector-specific allocation would be exceeded).

#### **Options to Release the Buffer**

As a reminder, there are 25 mt of POP and 50 mt of darkblotched rockfish available as a buffer in the off-the-top deductions. The GMT believes that the amount of buffer to release is a policy decision, as it concerns equity amongst sectors and risk tolerance. Therefore, the GMT provides the following options for dividing the buffer between the at-sea sectors for Council consideration:

Option 1: Split equally (50 percent to CP, 50 percent to MS)

Option 2: Pro-Rata to Whiting Allocations (58.6 percent to CP, 41.4 percent to MS)

Option 3: Bycatch Rate Approach

Option 4: Bootstrap Risk Tolerance

Options 1 and 2 are shown below in Table 8 and Table 9. Buffer release amounts are shown in five mt increments; however, the Council could choose to select any amount between the increments selected. Table 8 and Table 9 below show a range of buffers, and associated allocations for POP and darkblotched rockfish under the first two options, respectively.

Table 8: Potential distribution of 25 mt POP buffer and resulting allocations under Option 1 and Option 2, in mt.

		Ор	tion 1		Option 2			
Amount of Buffer Release (mt)	Amount of BufferAdditionalRelease (mt)Allocation		Resulting Total Allocation		Additional Allocation		Resulting Total Allocation	
	СР	MS	СР	MS	СР	MS	СР	MS
5	2.5	2.5	18.7	15	2.9	2.1	19.1	14.6
10	5	5	21.2	17.5	5.9	4.1	22.1	16.6
15	7.5	7.5	23.7	20	8.8	6.2	25.0	18.7
20	10	10	26.2	22.5	11.7	8.3	27.9	20.8
25	12.5	12.5	28.7	25	14.7	10.3	30.9	22.8

Table 9: Potential distribution of 50 mt darkblotched rockfish buffer and resulting allocations under Option 1 and Option 2, in mt.

		Op	tion 1		Option 2			
Amount of Buffer Release (mt)	Additional Allocation		Resulting Total Allocation		Additional Allocation.		Resulting Total Allocation	
	СР	MS	СР	MS	СР	MS	СР	MS
5	2.5	2.5	18.9	14.3	2.9	2.1	19.3	13.9
10	5	5	21.4	16.8	5.9	4.1	22.3	15.9
15	7.5	7.5	23.9	19.3	8.8	6.2	25.2	18.0
20	10	10	26.4	21.8	11.7	8.3	28.1	20.1
25	12.5	12.5	28.9	24.3	14.7	10.3	31.1	22.1
30	15	15	31.4	26.8	17.6	12.4	34.0	24.2
35	17.5	17.5	33.9	29.3	20.5	14.5	36.9	26.3
40	20	20	36.4	31.8	23.4	16.6	39.8	28.4
45	22.5	22.5	38.9	34.3	26.4	18.6	42.8	30.4
50	25	25	41.4	36.8	29.3	20.7	45.7	32.5

Option 3 would use the current bycatch rates presented in Table 3. Based on catch dates through June 11, the CP sector would receive almost 10 mt of POP; the MS sector would receive no buffer.

Option 4 would be use a risk based approach using the results of the bootstrap methodology. As shown above in Tables 4 to 7, the current risk for either sector exceeding one of the species allocations varies. If the Council wanted to take a risk-based approach, they could release a portion of the buffer to mitigate the possibility of exceeding a species allocation reaching a certain level (e.g. 1 in 4 or 0.75 quantile).

As described above, the Council must consider the needs of all sectors when determining if, and how much, of the buffer to release to one, or both, of the at-sea sectors. The GMT used the latest catch information to provide projected attainments for each species for 2017, and discusses the likelihood of the other sectors' need to access the buffer later in the year.

## POP

The overfished species scorecard (Attachment 1, Agenda Item F.10.a, Supplemental GMT Report 2) shows the current projected take of POP across all sectors and attainment against the ACL. Based on the latest projections, the expected attainment of the ACL is currently 27.3 percent. POP is a trawl dominant species, and the potential need for the non-trawl sectors to access the buffer is unlikely, with a typical attainment of 7 percent or lower and a current scorecard value of less than 3 percent. Therefore, the sectors that may need access to the buffer are the at-sea sectors and not the Shorebased Individual Fishing Quota (IFQ) sector. Attainments of the IFQ allocation of POP have ranged between 36.5 and 45.7 percent since 2011 (West Coast Groundfish Trawl Catch Share Program Five-year Review –Draft, June 2017, pg. B-3). While an individual vessel may experience a lightning strike and be in a deficit for the remainder of the year, the release of the buffer to the IFQ sector would be limited in its ability to raise the annual individual vessel limit to allow that vessel to fish again due to the apportionment based on quota share. The GMT notes that one individual vessel had almost a 4 mt tow of POP in May 2017. In addition, the ACL for 2017 and 2018 is almost two times higher than previous years.<sup>1</sup>

When considering the buffer for POP, it is important to take into account that POP is currently in a rebuilding plan, and any use of the buffer must continue to maintain the stock's rebuilding trajectory. Based on the projections from the Washington Department of Fish and Wildlife (WDFW) Report from June 2016 (<u>Agenda Item G.2.a, Supplemental WDFW Report 3, June 2016</u>), even if the entire ACL was taken in 2017 (including the buffer), there would be no change in the time to rebuild.

#### Darkblotched Rockfish

The overfished species scorecard (Attachment 1) shows the current projected take of darkblotched rockfish across all sectors and attainment against the ACL. The expected attainment of the 2017 ACL is currently 28.2 percent. Darkblotched rockfish is similar to POP in that it is a trawl dominant species and unlikely to be needed by the non-trawl sectors. Attainments of the IFQ allocation of darkblotched rockfish have ranged between 35.1 and 43.5 percent since 2011 (West Coast Groundfish Trawl Catch Share Program Five-year Review –Draft, June 2017, pg. B-3). Again, similar to POP, the release of the buffer may have little benefit to the IFQ sector unless it were to raise the annual individual vessel limit to get a vessel out of deficit in cases of an unforeseen catch event. With the 2017 ACL being 1.9 times higher than in 2016, the GMT believes the likelihood of the IFQ sector needing to access the buffer is low.

<sup>&</sup>lt;sup>1</sup> During the discussion of the buffer at the Council's June 2016 meeting, the Council recommended a temporary revision to the rebuilding strategy for POP, with a constant catch ACL of 281 mt in 2017 and 2018, returning to a spawning potential ratio (SPR) harvest rate of 86.4 percent in 2019 and beyond. This was an increase of 105–110 mt from the 17/18 ACLs under the default harvest control rule. The  $T_{TARGET}$  is maintained at 2051, which is the median time to rebuild and is eight years longer than  $T_F=0$ .

Based on the information presented above and the criteria within the groundfish FMP, the GMT recommends that the Council consider releasing some, or all, of the POP and darkblotched rockfish buffers to one, or both, of the at-sea sectors.

# **Criteria for Releasing the Buffer after June**

Even if the Council chooses not to release any or the entire POP and darkblotched rockfish buffer to the at-sea sectors at this meeting, the GMT notes that the Council could choose one of the above options, or option 5 below, to provide criteria for release of some or all of the remaining POP and darkblotched rockfish buffers in the future. Option 5 is presented as an option for between Council meetings as it is reactionary. The GMT reminds the Council that if they wish to provide an option for release of the buffer between Council meetings, specific guidance (such as under <u>Agenda Item H.9, Preliminary Draft Council Motions, September 2015</u> and <u>Agenda Item G.7, Preliminary Draft Council Motions</u>, So that automatic action is allowed.

## Option 5: *Release Buffer to Account for Hauls Exceeding X mt*

The Council could consider what the automatic release of the buffer would be if either at-sea sector were to experience a large magnitude haul, better known as a "lightning strike." These are truly random, and unforeseen catch events, and can happen in the midst of many zero or one fish positive hauls. Table 10 below shows the percentage of whiting hauls by sector from 2011-2016 that are positive for each species. As shown, a majority of the hauls have no bycatch of these species.

Table 10: Percentage of At-Sea Hauls from 2011-2016 with No Bycatch of Darkblotched Rockfish or POP.

Species	СР	MS
Darkblotched	82.2	84.6
РОР	85.8	87.1

Of those positive hauls, Figure 1 show the distribution of the magnitude of bycatch in metric tons by species and sector. A majority of the tows (around 90 percent) have less 2 darkblotched rockfish or POP.



Figure 1: Distribution of bycatch amounts of darkblotched rockfish vs. POP on positive (non-zero) mt by sector, 2011-2016.

While these smaller magnitude hauls can add up quickly (as shown in <u>Agenda Item F.7.a, WDFW</u> <u>Report 1, September 2016</u>), those larger hauls are rare and therefore can be thought of as "unforeseen" if they were to be encountered. The GMT therefore proposes Option 5, so that NMFS would automatically release the buffer to account for any hauls exceeding X mt (to be determined by the Council). For example, if a sector were to have a haul exceeding 1 mt, then NMFS would automatically release 1 mt to that sector.

When considering Option 5, the GMT notes that the Council may want to set stipulations on releasing the buffer. For instance, the buffer could only be released for large catch events when half of the allocation has been taken. One of the benefits of this option is that no additional calculations are needed by GMT or NMFS staff between Council meetings if this situation were to occur. However, this option does not provide any assistance in the case of chronic positive tows.

#### **Timing Considerations**

The GMT and GAP discussed the logistics and workload associated with releasing most or all of the buffer now versus releasing some of the buffer now and creating criteria for between June and September, or revisiting this issue in September, if additional buffer remains. Inseason rulemakings typically take approximately three weeks to process, in addition to NMFS staff time, so having multiple rulemakings could take resources away from other ongoing work. However, if the Council were to apportion all of the buffer at this meeting, there would be no available fish if an issue were to arise later in the year. With salmon bycatch tending to be higher in the fall and winter, both at-sea sectors may lean towards fishing more northerly during those time periods, and could have a lightning strike event- shutting down the fishery if they exceed their allocation.

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