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

The Groundfish Management Team (GMT) reviewed the materials in the briefing book under this agenda item and received an overview from Council staff. **The GMT recommends the Council consider the following items discussed below**.

Harvest Specifications, Harvest Guidelines, and Allocations

Darkblotched Rockfish Annual Catch Limit

In 2013, a full assessment of darkblotched rockfish resulted in a stock status of 36 percent depletion, with the expectation that the stock would be rebuilt by 2015. However, based on the 2015 full assessment, the stock was at 39 percent depletion (i.e., still managed under a rebuilding plan) but was predicted to be rebuilt in 2016. The stock is tentatively scheduled for an assessment in 2017 to confirm rebuilding. Three annual catch limit (ACL) alternatives were analyzed in Agenda Item G.4, Attachment 2: No Action which would continue management under the existing rebuilding plan with a spawning potential ratio (SPR) harvest rate of 64.9 percent; Alternative 1 which would set the ACL equal to the acceptable biological catch (ABC) with a P* of 0.45; and a Preferred ACL alternative, which contains a precautionary reduction from the ABC due to rebuilding uncertainty. The ACLs under all alternatives are not expected to affect rebuilding success since the stock is projected to be rebuilt by 2016, before these ACLs would be implemented.

In April 2016, the Council recommended the ACL alternative that contains a precautionary reduction from the ABC to account for uncertainty surrounding the rebuilding of the stock (i.e., has been on the cusp of being rebuilt for multiple cycles) and the status of the stock under the different states of nature in the stock assessment. The 2017 and 2018 ACLs would be established as 490 mt under this alternative. Overall, it is the GMT's understanding that the Council wanted to confirm that the stock is rebuilt in the next stock assessment cycle before making greater changes to the harvest control rule and establishing management measures intended to achieve the ACL.

As presented under Agenda Item G.2.a, Supplemental GMT Report, the GMT recommends the Council reconsider ACL Alternative 1 in Agenda Item G.4.a, Attachment 2, in Chapter 2, which sets the ACL = ABC. Alternative 1 would change the SPR harvest rate in the current rebuilding plan from 64.9 percent to ACL = ABC with a P* of 0.45. The time to rebuild under Alternative 1 (and all alternatives analyzed in Attachment 2) would remain 2016. The ACL values under Alternative 1 would be 641 mt for 2017 and 653 mt for 2018.

However, instead of establishing management measures intended to attain the ACL (i.e., allocating the entire Fishery Harvest Guideline (HG)), the GMT recommends the Council consider establishing a buffer from the ACL to account for unforeseen catch events (e.g., a lightning strike event as seen in the mothership (MS) sector in 2014). For example, the buffer

could be set equal to the difference between the 490 mt ACL proposed in April and the Alternative 1 ACLs, which would be 151 mt in 2017 and 163 mt in 2018. The 2017-2018 regulations could add the buffer to the already established non-tribal deductions from the ACL. This would allow the National Marine Fisheries Service (NMFS) to release those deductions inseason through routine inseason action to a particular sector in response to unforeseen catch events. The process to release the buffer would be done through routine inseason action at a Council meeting; through the same process that is used when it is determined that research, exempted fishing permit (EFP), or incidental open access mortality is lower than the pre-season projections. When determining whether to release the buffer, the Council would consider the allocation framework criteria outlined in the Fishery Management Plan (FMP), and the objectives to maintain or extend fishing and marketing opportunities, taking into account the best available fishery information on sector needs. In the event the buffer is not reallocated inseason it would provide an additional buffer to ensure mortality does not exceed the ACL.

Impacts of the Buffer Proposal

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 Alternative 1 with the buffer. The Alternative 1 buffer proposal is not expected to result in changes in fishing behavior, because the sectors are expected to continue to utilize individual accountability and co-op management to reduce bycatch interactions. Furthermore, there is no guarantee that the buffer would be released, and there is limited access to it since buffers could only be released at a Council meeting through routine inseason action with implementation occurring several weeks later. That is, it would be impractical and inefficient to design fishing operations based on potential access to the buffer.

Under the buffer approach described above, all sectors would receive lower allocations than under Alternative 1 for darkblotched. In other words, there is potential foregone yield by all sectors (either through targeting or increased access to bycatch) by establishing the buffer under Alternative 1. Table 1 below shows the allocations under Alternative 1 with and without the buffer for both 2017 and 2018. In recent years, attainment of darkblotched has been low for the non-trawl sectors, the individual fishing quota (IFQ) sector has landed between 30-40 percent and the at-sea sectors have seen varied landings (including two overages of initial allocations in 2011 for the catcher-processors (CPs) and 2014 for MS; Agenda Item G.2.a, Supplemental WDFW Report 2). Therefore the actual forgone yield might have limited impact. The forgone yield by implementing the buffer could be considered the price for addressing uncertainty in the assessment and projected catches as well as future management of the fishery (i.e. unsure of what level of targeting might occur), while achieving conservation goals and objectives and providing stability in management of the fishery, as envisioned in the FMP and under the Magnuson-Stevens Act (MSA).

Table 1. Comparison of the Darkblotched Rockfish Allocations from Alternative 1 with and without the Buffers.

Harvest Specification	Alternative 1 (ABC=ACL)		Alterative 1 (ABC=ACL) with Buffer		Forgone Yield by Implementing the Buffer under Alternative 1	
	2017	2018	2017	2018	2017	2018
OFL	671	689	671	689	0.0	0.0
ABC	641	653	641	653	0.0	0.0
ACL	641	653	641	653	0.0	0.0
Research, EFP, Tribal, IOA	27.3	27.3	27.3	27.3	0.0	0.0
Buffer	N/A	N/A	**151.0**	**163**	151.0	163
HG	613.8	625.8	462.8	462.8		
Trawl	583.1	594.6	439.6	439.6	143.5	155
-Shorebased IFQ	552.6	563.4	416.7	416.7	135.9	146.7
-CP	17.8	18.2	13.5	13.5	4.4	4.7
-MS	12.6	12.8	9.5	9.5	3.1	3.3
Non-Trawl	30.7	31.3	23.1	23.1	7.6	8.2

Summary

The GMT believes that this alternative approach to increase the ACLs for darkblotched rockfish could (1) potentially provide relief to all sectors, but most likely the trawl sectors, in the event of unforeseen catch events; (2) it would not reduce IFQ allocations and harvest potential compared to Alternative 3; and (3) it would be a simpler option that reduces workload compared to other options discussed at this meeting.

Therefore, the GMT recommends the Council consider increasing the darkblotched ACL and make the difference between these ACLs and the Council's initial FPA ACLs a buffer (i.e. off-the-top deduction from the ACL).

The GMT acknowledges that this approach is not intended as a long-term solution to address the purpose and need described under Agenda Item G.2, and **the GMT recommends that a long-term solution continue to be pursued.**

Pacific Ocean Perch Annual Catch Limit

In September 2015, the GMT believed that revisions to the 2011 Pacific ocean perch (POP) rebuilding analysis and alternatives for a more detailed analysis were not necessary since catches have been below the ACL, and POP did not appear to be constraining any fisheries (Agenda Item H.5.a, Supplemental Revised GMT Report, September, 2015). None-the-less, the Council recommended updating the 2011 rebuilding analysis. In November 2015, a revised rebuilding analysis was presented with actual catch numbers in 2011-2014, and ACLs in 2015 and 2016

(Agenda Item I.4.a, Attachment 7). The Council recommended in November 2015 and in April 2016 that the default harvest control rule for POP, as described in the current rebuilding plan (SPR=86.4 percent, T_{target} = 2051), be established for 2017-2018 in the amounts of 171 mt for 2017 and 176 mt for 2018.

The GMT considered a similar buffer approach for POP as described above for darkblotched rockfish in 2017 and 2018. Based on the updated rebuilding analysis from November 2015 (Agenda Item I.4.a, Attachment 7), the SPR for POP in the rebuilding plan could be changed from 86.4 percent to 85.8 percent without changing the time to rebuild of 2051. Under the new SPR rate, the ACL would increase from 171 mt to 180 mt in 2017 and 176 mt to 184 mt for 2018 (Agenda Item I.4., Attachment 7, Table 2, Column 5).

However, instead of establishing management measures intended to attain the ACL (i.e., allocating the entire Fishery HG), the GMT recommends the Council consider establishing a buffer from the ACL to account for unforeseen catch events. The GMT has recently become aware of two lightning strikes of POP in 2016, one in the mothership sector and another in the shorebased IFQ program. Providing a buffer could mitigate against these unforeseen catch events in 2017-2018. The difference between the GMT alternative ACLs and the FPA ACLs selected by the Council in April (i.e., 9 mt and 8 mt) would be established as a buffer and would be available to any sector through routine inseason action in response to unforeseen catch events. When recommending releases of the buffer, the Council should consider the allocation framework criteria outlined in the FMP and the objectives to maintain or extend fishing and marketing opportunities, taking into account the best available fishery information on sector needs.

Impacts of the Proposal

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 the GMT Alternative with the buffer. As described above, providing a buffer is not expected to result in changes in fishing behavior, because there is no guaranteed access to the buffer and therefore, it would be inefficient for fishing operations to manage to anything additional.

There is potential foregone yield by all sectors (either through targeting or increased access to bycatch) by establishing the buffer under the GMT Alternative. Table 2 below shows the allocations with and without the buffer for both 2017 and 2018. In recent years, the non-trawl sectors have seen low attainment, the IFQ sectors have attained 30-40 percent, and the at-sea sectors have had varied landings (Agenda Item G.2.a, Supplemental WDFW Report 2). The forgone yield could be considered the price for rebuilding in as short as time possible while simultaneously providing stability in management of the fishery.

Table 2. Comparison of GMT Pacific Ocean Perch Alternative with and without the Buffer.

Harvest Specification	GMT ACL Alternative (SPR=85.8%)		GMT ACL Alternative with Buffer (SPR=85.8%)		Forgone Yield by Implementing the Buffer	
	2017	**2018**	**2017**	**2018**	**2017**	**2018**
OFL	961	985	961	985	0.0	0
ABC	919	942	919	942	0.0	0
ACL	180	184	180	184	0.0	0
Research, EFP, Tribal, IOA	24.4	24.4	24.4	24.4	0.0	0
Buffer	N/A	N/A	**9.0**	**8**	9.0	8
HG	155.6	159.6	146.6	151.6		
Trawl	147.8	151.6	139.3	144	8.5	7.6
-Shorebased IFQ	130.4	134.2	121.9	127	8.5	7.2
-CP	10.2	10.2	10.2	10.2	0.0	0.0
-MS	7.2	7.2	7.2	7.2	0.0	0.0
Non-Trawl	7.8	8	7.3	7.6	0.5	0.4

Summary

The GMT believes that the alternative approach to change the SPR rate thereby increasing the ACL for POP, without changing the time to rebuild, could potentially (1) provide relief to the all sectors (but most likely the trawl sectors) if unexpected catch events occur; (2) it would not reduce IFQ allocations and harvest potential compared to the values under Alternative 3; (3) it would be a simpler option that reduces workload compared to other options discussed at this meeting; and (4) may provide adequate relief for the at-sea whiting sectors to obtain their whiting TACs if unforeseen mortality occurs.

Therefore, the GMT recommends the Council consider increasing the POP ACL, while maintaining the target year in the current rebuilding plan and make the difference between these ACLs and the Council's initial FPA ACLs a buffer (i.e. off-the-top deduction from the ACL).

The GMT acknowledges that this approach is not intended as a long-term solution to address the purpose and need described under Agenda Item G.2, and **the GMT recommends that a long-term solution continue to be pursued.**

Canary Rockfish (Action Item #5 and #6)

In April 2016, the Council selected as FPA a canary rockfish constant ACL of 1,526 mt for both 2017 and 2018 with a PPA allocation structure of annual catch targets (ACTs) of 72 percent to

the trawl sectors (1,060.1 mt) and 28 percent (406.5 mt) to the non-trawl sectors (Table 4-96 in Agenda Item G.4, Attachment 2). The GMT reviewed the regulatory description of ACTs and the Council discussion in April. The GMT believes that the Council wanted to also provide some flexibility in the management of canary rockfish; however, the setting of an ACT, instead of calling them allocations, does not allow for any additional flexibility. In other words, there is no ability to move unused allocation between the sectors even under an ACT.

Furthermore, there is no automatic action to close the sectors if the non-trawl or trawl allocation or ACT is exceeded. There were concerns about the uncertainty surrounding the allocation decisions and whether or not the amounts would be enough for the fisheries to operate. The only automatic action that results in a shutdown of fishing activity is if an individual fishing quota (IFQ) vessel goes into deficit (and must cover the overage, assuming not over the annual vessel limit) or if one of the at-sea sectors exceeds its allocation (as the MS co-op in 2014 was closed due to attainment of their darkblotched rockfish allocation). If either the trawl or non-trawl sector were to exceed its ACT/allocation or a harvest guideline (HG), then the Council could still consider if there is a conservation risk relative to the ACL (and allow the fishery to continue) or institute a management measure to change the sectors effort (e.g. moving the shorebased IFQ fishery outside of 100 fathoms in 2015 to reduce effort on canary rockfish after the a lightning strike tow).

The GMT recommends the Council reconsider the No Action ACL in Agenda Item G.4.a, Attachment 2, in Chapter 2, which sets the ACL = ABC. The ACL values under Alternative 1 would be 1,714 mt for 2017 and 1,603 mt for 2018.

However, instead of establishing management measures intended to attain the ACL (i.e., allocating the entire Fishery HG), the GMT recommends the Council consider establishing a buffer from the ACL to account for unforeseen catch events (similar to darkblotched and POP). Two options are provided here (Table 3) to provide a buffer to address unforeseen mortality. Both canary rockfish alternatives provided below would set the ACL = ABC (No Action), and then would provide a buffer of some magnitude that would be considered an off-the-top deduction from the ACL. It is this deduction from the ACL that could be made available to other sectors through routine inseason action after considering the progress of the fishery and the FMP allocation criteria as described above.

Table 3 shows the No Action ACLs with the two buffer options for 2017 and 2018. Option 1 can be described as an "ACL Dependent Buffer" approach. This alternative would set the buffer as the difference between the Council's current FPA ACL of 1,526 mt and the ACL when ACL = ABC (i.e., 188 mt). The current off-the-top deductions (e.g. EFPs, research, Tribal, incidental open access) would remain as would the sector allocations the Council selected as PPA in April. Therefore, the buffer from the ACL would decrease between 2017 and 2018 due to the decrease in the overfishing limit (OFL)/ABC/ACL. Option 2 is a "Constant Percentage Buffer" approach, which would take a specific percentage (in this case 10 percent) off of the ACL as a buffer. The remaining off-the-top deductions would remain while the sector allocations were calculated by applying the proportions of the trawl/non-trawl allocations to the HG and the sector allocations to the trawl/non-trawl allocations from the Council's PPA allocation in April to the fishery HG.

Table 3. GMT Proposed Buffer Options for Canary Rockfish.

	2017	2018	2017	2018
	Buffer Option 1: ACL Dependent Buffer		Buffer Option 2: Constant Percentage Buffer	
OFL	1,793	1,677	1,793	1,677
ABC	1,714	1,603	1,714	1,603
ACL	1,714	1,603	1,714	1,603
Proposed Buffer	**188.0**	**77.0**	**171.4**	**160.3**
Res, EFP, Tribal, IOA a/	59.4	59.4	59.4	59.4
HG	1,466.6	1,466.6	1,483.2	1,383.3
Trawl Allocation	1,060.1	1,060.1	1,072.1	999.9
Shorebased IFQ	1,014.1	1,014.1	1,025.6	956.5
Catcher Processor	16	16	16.2	15.1
Mothership	30	30	30.3	28.3
Non-Trawl Allocation	406.5	406.5	411.1	383.4
Nearshore	100	100	101.1	94.3
Non-Nearshore	46.5	46.5	47.0	43.9
WA Recreational	50	50	50.6	47.2
OR Recreational	75	75	75.8	70.7
CA Recreational	135	135	136.5	127.3

a/ These are the off-the-top deductions from April for research, EFPs, Tribal (50 mt), and IOA (Agenda Item G.4., Attachment 2) as adopted under Alternative 3.

As shown in Table 3, under Option 1, by setting the buffer as the difference between the Council's PPA ACL (constant value) and the ACL = ABC values, the buffer decreases between 2017 and 2018 by 111 mt. Unfortunately, due to the uncertainty surrounding management of canary rockfish and the potential harvest in the future, it is impossible to determine whether the buffer in either year is too large or too small. During Council discussion of selecting their canary rockfish allocation PPA, significant consideration was given in selecting sector specific allocations. Should the Council wish to leave those allocations in place, those values are included in Option 1.

Under Option 2, the buffer is reduced proportionally between 2017 and 2018 as well, but only by 11.1 mt. Depending on the Council's risk tolerance, this buffer could be changed to be more or less risk averse (i.e., increase or decrease the percentage). As shown above, this would increase the 2017 allocations and decrease the 2018 allocations because of the constant buffer approach and the decline in the ACL between the two years.

Impacts of the Proposal

Providing a buffer in the manner described above is not expected to result in changes in fishing behavior, because the sectors are expected to continue to utilize individual accountability, and co-op management to reduce bycatch interactions. Furthermore, there is no guarantee the buffer would be released and there is limited access to it, in that it can only be released at a Council meeting through routine inseason action with implementation occurring several weeks later. That is, it would be impractical and inefficient to design fishing operations based on potential access to the buffer.

Under the buffer approach described above, all sectors would receive lower allocations than if the full ACL and Fishery HG were allocated. In other words, there is potential foregone yield by all sectors (either through targeting or increased access to bycatch) by establishing the buffer. Since canary rockfish was declared overfished, all sectors have had measures in place to minimize mortality to canary rockfish to stay within the low ACL levels. Under these low levels, most sectors have been attaining a high percentage of their sector-specific allocation annually. The overfished species scorecard from April 2016 (Agenda Item F.8.a., Supplemental GMT Report, Attachment 1) shows that most sectors have projected impacts equal to or over their 2016 sector-specific allocations. With canary rockfish being rebuilt, some restrictions will be eased or eliminated, which will allow for targeting and/or bycatch retention. As this has not been allowed since the early 2000s, there is a fair bit of uncertainty in how fishing behaviors may change and in the resulting projected catches. The forgone yield could be considered the price for addressing uncertainty in the assessment and projected catches as well as future management of the fishery (i.e. unsure of what level of targeting might occur), while achieving conservation goals and objectives and providing stability in management of the fishery, as envisioned in the FMP and under MSA.

Summary

Therefore, the GMT recommends that the Council consider the Alternatives presented in Table 3 to address unforeseen catch events, and to provide flexibility in management of canary rockfish in 2017-2018.

Overarching Summary of Buffer Approach

The GMT believes that the buffer approach described above for darkblotched, POP, and canary rockfish is a reasonable approach to prevent overfishing, address stock assessment and management uncertainty, rebuild overfished stocks (POP and darkblotched), and maximize the value of the groundfish resource as a whole. As described in Agenda Item G.4, Attachment 2, June 2016, Chapter 4, there is unquantified uncertainty in the projected impacts for all sectors for these species. For the shorebased IFQ sector, the reemergence of the midwater rockfish strategy, recent lightning strikes of canary (2015) and POP (2016), and changing conditions make the projections uncertain. For the at-sea sectors, the analysis indicates a risk of exceeding the allocations resulting in unharvested Pacific whiting which would come at a high cost. For the non-trawl sectors, the greatest uncertainty in the projections for these species lies with canary rockfish as described in Attachment 2. The GMT views the model projections and proposed buffer approach to be analogous to earthquake predictions by seismologists and the response of homeowners. Seismologist indicate earthquakes are likely but the timing and magnitude of such events is highly uncertain. In response, homeowners secure earthquake insurance to mitigate the losses.

Update to Routine Management Measures

Big Skate Trip Limits (Item #9)

In Agenda Item G.4.a, GMT Report 1, the GMT proposed a new trip limit alternatives for big skate in the IFQ fishery for 2017-2018. However, based on recent inseason estimates for 2016, **the GMT is recommending that the PPA be confirmed as the final preferred alternative**

(FPA). Trip limits will continue to be monitored throughout the year and can be modified inseason.

Sablefish Trip Limit Adjustments (Item #11)

As stated in Agenda Item G.4.a, GMT Report 1, the Council selected the Groundfish Advisory Subpanel (GAP) recommendations for sablefish trip limits for the daily trip limit (DTL) fisheries, and the limited entry (LE): open access (OA) sharing allocation for the fishery south of 36° N. lat. at 70:30. However, these trip limits and associated projections were not reflective of the best available data. The GMT provided updated projections of the PPA in Table 3 of Report 1 and a revised trip limit for OA north of 36° N. Lat. in Table 4 to keep the fishery within its landing target. **The GMT therefore recommends the following trip limits in Table 4, as well as confirm the PPA sharing allocation for LE:OA of 70:30 for S of 36°N. lat.**

Table 4. GMT Recommended DTL Trip Limits for 2017-2018, Projected Landings (mt) and Attainment (Based on 2017 Landing Targets). LEN= LEFG North of 36° N. lat.; OAN=OA North 36° N. lat.; LES=LE South of 36° N. lat.; OAS= OA South of 36° N. lat.

Sector	PPA Trip Limit	Projected Landings	Landing Target	Projected Attainment
LEN	1,125 lbs per week, not to exceed 3,375 lbs. bimonthly	217-254	297	73.1-85.7
OAN	300 lbs/day, or one landing per week up to 1,200 lbs., not to exceed 2,400 lbs. bimonthly	426	490	86.9
LES	1,700 lbs weekly	273-386	419	65.2-92.2
OAS	300 lbs daily, or one landing per week of 1,600 lbs, not to exceed 3,200 lbs bimonthly	34.9	179	18.7

California Commercial - Nearshore (Action Item #12)

The California Department of Fish and Wildlife (CDFW) is proposing that a 2017 trip limit increase be considered by the Council for shallow and deeper nearshore rockfishes south of 40°10' N. latitude (Agenda Item G.4.a. Supplemental CDFW Report 2, June 2016). This increase is a result of 0.1 mt of yelloweye rockfish reallocated to California's nearshore fishery for 2017 from Oregon research. This trip limit proposal will set an equal amount for each bi-monthly period when fishing is allowed. The following tables provide the No Action trip limits for both sectors and those recommended by the CDFW for consideration (Table 5, Table 6, and Table 7). The estimated mortality is projected to be within the 2017 and 2018 harvest limits for minor nearshore rockfish complex south of 40°10' N. lat. species, which are 1,158.9 mt and 1,174.9 mt, respectively. The nearshore trip limit range analyzed in 2015-2016 was 600 pounds to 1,000 pounds. A 1,200 pound trip limit was not analyzed.

Table 5. Trip limit alternatives for shallow nearshore rockfishes south of 40°10' N. latitude, for 2017. All trip limits are in pounds with the estimated mortality given in metric tons.

	Trip Limits (pounds)						
	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Est. Mort.
No Action	600	Closed	800	900	800	1,000	55.6
Alt. 1	1,000	Closed	1,000 / 2 mo.				68.1
Alt. 2	1,200	Closed	1,200 / 2 mo.				81.8

Table 6. Trip limit alternatives for deeper nearshore rockfishes between 40°10' N. latitude and 34°27' N. latitude, for 2017. All trip limits are in pounds with the estimated mortality given in metric tons.

	Trip Limits (pounds)						
	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Est. Mort.
No Action	700	Closed	700	900	900	1,000	42.6
Alt. 1	950	Closed	950 / 2 mo.				48.3
Alt. 2	1,000	Closed	1,000 / 2 mo.				50.8

Table 7. Trip limit alternatives for deeper nearshore rockfishes south of 34°27' N. latitude, for 2017. All trip limits are in pounds with the estimated mortality given in metric tons.

	Trip Limits (pounds)						
	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Est. Mort.
No Action	500	Closed	600	900	900	1,000	4.6
Alt. 1	950	Closed	950 / 2 mo.				5.4
Alt. 2	1,000	Closed	1,000 / 2 mo.				5.7

Projected mortality of yelloweye rockfish in the California nearshore fishery for 2017, including the proposed increased trip limits in the area south of 40°10' N. lat, is 0.7 mt which equals the California nearshore share of 0.7 mt (2017 HG of 2.1 mt for the combined OR/CA nearshore). The additional 0.1 mt of yelloweye rockfish (resulting in the 2017 share of 0.7 mt) allotted to the California nearshore fishery allows for these trip limit increases in the area south of 40°10' N. lat.

Predicting the estimated mortality of yelloweye rockfish in the nearshore fishery (for both Oregon and California) has been erratic, with the nearshore bycatch model both under and over-projecting for the past several years (Table 8). This is not specific to the nearshore model, due to encounters with yelloweye rockfish being relatively rare, projected mortality is highly variable when modeling all fisheries. The GMT has some concerns that, given the variability in the projected and observed mortality for yelloweye rockfish (Table 8), that even with the 0.1 mt of additional yelloweye, the share could be exceeded if there are more encounters with yelloweye rockfish than projected pre-season. The GMT notes that catch updates for the nearshore fishery are available inseason and trip limits could be reduced through inseason action if necessary to keep catch within allowable limits. **The GMT recommends the Council consider the trip limit increases for the shallow and deeper nearshore rockfishes south of 40°10' N. latitude**

Table 8. Projected commercial nearshore mortality (OR/CA) estimates (mt) of yelloweye rockfish derived from the nearshore bycatch model compared to the observed amounts and difference (mt) are provided. The observed data are from the WCGOP Groundfish Mortality Report.

Year	Projected	Observed	Difference
2008	2.2	2.7	0.5
2009	1.2	0.5	-0.7
2010	1.1	0.1	-1.0
2011	1.0	0.9	-0.1
2012	1.0	2.2	1.2
2013	1.1	2.7	1.7
2014	1.1	1.0	-0.1

WA recreational (Action Item #14)

The GMT recommends the PPA management measures and season structure as described under Alternative 3 in Agenda Item G.4. Attachment 2 with no changes.

OR recreational (Action Item #15)

The GMT recommends the PPA management measures and season structure as described under Alternative 3 in Agenda Item G.4, Attachment 2 with no changes.

CA recreational (Action Item #16)

The GMT discussed the management measures and season structures as described in Alternative 3, in Agenda Item G.4, Attachment 2, June 2016. The CDFW recommendation, as outlined in Agenda Item G.4.b, Supplemental CDFW Report is similar to Alternative 3, except that the 'Hotspot Closures' are not being recommended. The rationale is outlined in the CDFW report and is primarily due to the multiple changes that have occurred in the fishery since the yelloweye rockfish overage in the 2007 recreational fishery. For example, CDFW implemented an inseason monitoring tool that allows mortality of yelloweye rockfish to be monitored on a weekly basis, and new depth dependent mortality rates, including those reflecting the use of descending devices, have been adopted for use in management. Further, several Marine Protected Areas have been implemented that were designed, in part, to provide protections to overfished species, including yelloweye rockfish. The GMT also notes that there are Yelloweye Rockfish Conservation Areas (RCA) available for use in regulation and underutilization of the yelloweye rockfish HG in recent years, varying between 32 (2014) and 52 percent (2012).

Further, CDFW and industry have conducted extensive outreach, including yelloweye rockfish identification and the benefits of descending devices use. Under Agenda Item G.4.b, Supplemental Public Comment 2, public comment has been received in support of the CDFW recommendation as well as, outlining efforts undertaken by industry to reduce yelloweye rockfish impacts and a dedication to continue those efforts.

The GMT recognizes that projecting savings of yelloweye rockfish from hot spot closures is extremely difficult. Ultimately, the GMT sees the implementation of the new inseason management approach for CDFW, described in Agenda Item G.4, Attachment 5, as providing an

additional mechanism for CDFW to keep catch of constraining species within specified HGs, if inseason information shows higher than anticipated encounters. **The GMT considered these issues and recommends that the Council consider the California management measures and season as described in Agenda Item G.4.b, Supplemental CDFW Report.**

New Management Measures

Adjustments to the Trawl Rockfish Conservation Area North of Cape Alava

This new management measure would open the area north of Cape Alava (48° 10' N. lat.) to non-tribal bottom trawl fishing. Since 2007, the area from shore to the 150 fathom line or the modified 200 fathom line has been closed. The proposed RCA of 100 - 150 fathom lines year-round would open the shelf between Washington's state waters (where trawling is prohibited) and the 100 fm line shoreward boundary of the trawl RCA.

The primary reason for the closure in 2007 was yelloweye rockfish bycatch concerns. Prior to the closure, half of the trawl allocation (i.e., 0.2 mt of 0.4 mt) was taken in the waters that are being proposed to be reopened. As such, a primary focus of the analysis to reopen the area was to evaluate potential yelloweye rockfish impacts (Agenda Item G.4., Attachment 5, June 2016, pages 19-32). Due to lower bycatch fishing practices and fleet consolidation, the predicted yelloweye rockfish impacts associated with reopening the area is 0.03 mt, but could be as high as 0.2 mt (historical impacts prior to the closure). However, the IFQ fleet is only projected to utilize 0.08 mt of their 1.10 mt yelloweye rockfish allocations in 2017-2018, and as such, even if a large amount of catch were to happen, the risk of exceeding the IFQ allocation is low.

In addition, there were concerns about potential impacts to habitat. Currently, there is some tribal bottom trawl activity occurring in the area north of Cape Alava. While yelloweye rockfish encounters in this area remain a concern, there is predicted limited additional access to high value, target species and therefore effort shift into the area is expected to be minimal. Therefore, the proposed action should result in little additional impact to habitat.

The GMT therefore recommends the Council consider reopening the shelf north of Cape Alava to non-tribal bottom trawling since potential adverse yelloweye rockfish and habitat impacts associated with the action appear low. Reopening the area would also better meet the objectives of the IFQ program to allow fishermen greater flexibility to operate under individual accountability (i.e., avoid known yelloweye rockfish "hotspots" in the area), and could also potentially restore landings revenue to shoreside processors and coastal communities in northern Washington.

RCA adjustment in California

Two commercial non-trawl RCA boundary changes are proposed under Agenda Item G.4, Attachment 5, June 2016, The first is to adjust the RCA seaward boundary from the 150 fathom line to the 125 fathom line between 40°10' N. latitude and 34°27' N. latitude. The second is to adjust the RCA shoreward boundary from the 60 fathom line to the 75 fathom line south of 34°27' N. latitude. These adjustments will improve access to target shelf rockfish species such as yellowtail rockfish and chilipepper for both the limited entry and open access non-trawl fixed gear fishery sectors. The GMT analyzed fishing activity adjacent to these areas and determined

that most fishing takes place somewhat distant from the proposed increased areas. Therefore, it is estimated that impacts to target species will be minimal. It is also estimated that making these adjustments will have no impact on overfished species, essential fish habitat, or impacts on marine mammals, sea birds, or ESA species and therefore, **the GMT recommends adopting the proposed non-trawl RCA adjustments in California.**

Housekeeping revisions to IFQ model projections for Alternative 3

IFQ model projections for Alternative 3, the PPA, (Table 4-101; Agenda Item G.4, Attachment 2, June 2016) are mistakenly listed as being above allocation for lingcod and yellowtail rockfish (both north 40°27' N. latitude). In the corrected table below (Table 7), projections for these stocks are artificially limited near their respective allocations, as it would be unlikely the sector could exceed their allocation with individual accountability.

Table 9. Corrected projections for Alternative 3 – Shorebased IFQ in 2018. This table is meant to replace Table 4-101 from Agenda Item G.4, Attachment 2, June 2016) Projected mortality for IFQ species under Alternative 3 for 2018 compared to the allocations or set-asides. No action estimates of mortality are provided (right panel).

IFQ Species	Area	Alternative 3 2018		No Action 2018	
		Projected Mortality (mt)	SB IFQ Allocation (mt)	Projected Mortality (mt)	SB IFQ Allocation (mt)
Arrowtooth flounder	Coastwide	4,872.3	10,992.6	2,299.8	10,992.6
BOCACCIO	South of 40°10' N. lat.	86.9	286.0	53.7	176.8
Canary Rockfish	Coastwide	792.3	1,014.1	498.0	625.1
Chilipepper	South of 40°10' N. lat.	587.8	1,860.8	353.8	1,868.3
COWCOD	South of 40°10' N. lat.	0.17	1.40	0.17	1.4
DARKBLOTCHED	Coastwide	136.9	416.7	97.9	352.8
Dover sole	Coastwide	12,058.4	45,981.0	7,062.1	45,981.0
English sole	Coastwide	571.9	6,953.0	220.2	6,953.0
Lingcod	North of 40°10' N. lat.	1,208.4	1,259.3	291.0	1,259.5
Lingcod	South of 40°10' N. lat.	58.6	510.8		511.2
Longspine thornyheads	North of 34°27' N. lat.	1,291.9	2,560.2	939.5	2,560.2
Minor Shelf Rockfish	South of 40°10' N. lat.	156.0	1,146.8	66.4	1,148.7
Minor Shelf Rockfish	North of 40°10' N. lat.	28.3	192.4	15.5	196.0
Minor Slope Rockfish	North of 40°10' N. lat.	260.3	1,268.0	260.5	1,268.8
Minor Slope Rockfish	South of 40°10' N. lat.	113.2	406.7	101.5	357.1
Other Flatfish	Coastwide	3,103.3	6,349.3	1,319.3	6,349.3
Pacific cod	Coastwide	156.5	1,031.4	156.5	1,031.4
Pacific halibut c/	North of 40°10 N. lat.	26.1	84.5	26.1	84.5
PACIFIC OCEAN PERCH	North of 40°10' N. lat.	44.1	126.6	39.3	126.6
Pacific whiting b/	Coastwide	8,3693.1	112,007.3	83,693.1	112,007.3
Petrale sole	Coastwide	2,508.7	2,628.5	2,508.7	2,628.5
Sablefish	North of 36° N. lat.	2,776.3	2,912.1	2,776.3	2,912.1
Sablefish	South of 36° N. lat.	149.9	468.3	149.9	468.3
Shortspine thornyheads	North of 34°27' N.	802.5	1,537.0	694.5	1,537.0
Shortspine thornyheads	South of 34°27' N	2.5	50.0	2.5	50.0
Splitnose rockfish	South of 40°10' N. lat.	64.1	1,662.8	64.1	1,664.2

Starry flounder	Coastwide	23.5	630.9	10.0	630.9
Widow rockfish	Coastwide	8,583.1	10,661.5	1,078.8	1,340.1
YELLOWEYE ROCKFISH	Coastwide	0.08	1.15	0.08	1.1
Yellowtail rockfish	North of 40°10' N. lat.	3,979.1	4,075.4	1,347.9	4,084.2

a/ Pacific halibut is managed using IBQ, see regulations at §660.140. Starting in 2015, the maximum IBQ allocation is 45 mt, see (§660.55 (m)). There is no projection model for Pacific halibut bycatch.
b/ As stated in regulations (§660.55 (m)), a Pacific halibut set-aside of 10 mt, to accommodate bycatch in the at-sea Pacific whiting fisheries and in the shorebased trawl sector south of 40°10' N. latitude (estimated to 5 mt each). There is no projection model for Pacific halibut bycatch.

Housekeeping Revisions to Harvest Control Rule for Big Skate Under Alternative 3

In Agenda Item G.4.a, Attachment 3 and in Table 2-1 in Agenda Item G.4.a, Attachment 2, the harvest control rule for Alternative 3 (FPA) states that big skate will be managed as an ecosystem component (EC) species (i.e., no harvest control rules or specifications). However, the Council took action in November to move big skate into the fishery and therefore the correct harvest control rule is ABC = ACL (P*=.45).

Recommendations:

Harvest Specifications, Harvest Guidelines and Allocations

- **The GMT recommends the Council consider increasing the darkblotched ACL and make the difference between these ACLs and the Council's initial FPA ACLs a buffer (i.e. off-the-top deduction from the ACL) The GMT also recommends that a long-term solution to address bycatch constraints in the at-sea whiting sectors continue to be pursued**
- **The GMT recommends the Council consider increasing the POP ACL, while maintaining the target year in the current rebuilding plan and make the difference between these ACLs and the Council's initial FPA ACLs a buffer (i.e. off-the-top deduction from the ACL). The GMT also recommends that a long-term solution to address bycatch constraints in the at-sea whiting sectors continue to be pursued**
- **The GMT recommends that the Council reconsider the No Action canary rockfish ACL and options presented in Table 3 to address unexpected mortality, and to provide flexibility in management of canary rockfish in 2017-2018.(Action Items #5 and #6)**

Update to Routine Management Measures

- **The GMT recommends that the Council confirm the PPA for Big Skate trip limits as the final preferred alternative (FPA). (Action Item #9)**
- **The GMT recommends the sablefish trip limits in Table 4, as well as confirm the PPA sharing allocation for LE:OA of 70:30 for S of 36°N. lat.(Action Item #11)**
- **The GMT recommends the Council consider the California commercial nearshore trip limit increases for the shallow and deeper nearshore rockfishes south of 40°10' N. latitude**
- **The GMT recommends the Council adopt the PPA management measures and season structure for the Washington and Oregon recreational fisheries as described**

under Alternative 3 in Agenda Item G.4, Attachment 2 with no changes.(Action Items #14 and #15)

- **The GMT recommends the Council consider the PPA management measures and season structure as described in Agenda Item G.4.b, Supplemental CDFW Report. (Action Item #16)**

New Management Measures

- **Adjustments to the Trawl Rockfish Conservation Area North of Cape Alava**
  - **The GMT recommends the Council consider reopening the shelf north of Cape Alava to non-tribal bottom trawling (i.e., 100-150 RCA year-round)**
- **RCA adjustment in California**
  - **The GMT recommends changes to the non-trawl RCAs in CA to: (1) adjust the RCA seaward boundary from the 150 fathom line to the 125 fathom line between 40°10' N. latitude and 34°27' N. latitude; (2) adjust the RCA shoreward boundary from the 60 fathom line to the 75 fathom line south of 34°27' N. latitude.**

Attachment 1. Pacific Ocean Perch Rebuilding Analysis Presented to the Council and Approved by the SSC in November 2015.

Agenda Item I.4.
Attachment 7
November 2015

WEST COAST PACIFIC OCEAN PERCH PROJECTIONS FROM THE 2011 REBUILDING ANALYSIS WITH ACTUAL CATCH NUMBER IN 2011-2014, AND ACLS IN 2015 AND 2016

Owen Hamel, NWFSC, October 7, 2015

Table 1. Catch values used in the updated rebuilding analysis for 2011 – 2016.

Year	ACL	**Estimated** or *Assumed* Catch
2011	180	**62**
2012	183	**56**
2013	150	**58**
2014	153	**71**
2015	158	*158*
2016	164	*164*

Table 2. Updated rebuilding runs with the above catch stream for 2011-2016. When RUN is a year, it represents the lowest SPR that will result in a 50% probability of rebuilding by that year. 2011 rebuilding analysis ACL and OFL projections with SPR=0.864 are included for comparison.

Case	**1**		**2**		**3**		***4 from 2011 RA***		**4**		**5**		**6**		**7**		**8**		**9**		**10**		**11**		**12**
RUN	**F=0**		**2045**		**SPR for ACTs**		***SPR for ACLs***		**SPR for ACLs**		**SPR from ACTs**		**SPR from ACLs**		**2055**		**2060**		**2065**		**2071**		**40-10**		**OFL**
SPR	1		0.942		0.880		*0.864*		0.864		0.858		0.839		0.818		0.782		0.752		0.730		>=0.500		0.500
T50%	2043		2045		2050		*2051*		2051		2051		2053		2055		2060		2065		2071		*		*
P2045	57.0%		50.0%		41.2%		*38.7%*		39.4%		38.9%		36.9%		34.7%		31.5%		29.6%		28.4%		25.1%		25.1%
P2071	85.4%		80.9%		75.4%		*73.2%*		73.6%		72.9%		70.6%		67.1%		61.8%		55.5%		50.0%		25.4%		25.2%
	ACL	OFL	**ACL**	OFL	**ACL**	OFL	***ACL***	*OFL*	**ACL**	OFL	**ACL**	OFL	**ACL**	OFL	**ACL**	OFL	**ACL**	OFL	**ACL**	OFL	**ACL**	OFL	**ACL**	OFL	**ACL=OFL**
2017	**0**	961	**68**	961	**149**	961	***169***	*948*	**171**	961	**180**	961	**208**	961	**239**	961	**297**	961	**348**	961	**389**	961	**717**	961	**961**
2018	**0**	991	**70**	989	**153**	986	***173***	*972*	**176**	985	**184**	985	**212**	984	**245**	983	**303**	981	**354**	979	**396**	978	**720**	966	**958**
2019	**0**	1017	**71**	1013	**156**	1007	***177***	*993*	**179**	1006	**188**	1005	**217**	1003	**249**	1001	**308**	997	**360**	993	**401**	990	**719**	968	**951**
2020	**0**	1041	**73**	1034	**159**	1025	***180***	*1010*	**182**	1023	**191**	1022	**220**	1019	**253**	1016	**312**	1010	**364**	1004	**405**	1000	**715**	967	**943**
2021	**0**	1064	**74**	1055	**162**	1044	***183***	*1028*	**185**	1040	**194**	1039	**224**	1035	**257**	1031	**316**	1023	**368**	1016	**409**	1010	**717**	967	**936**
2022	**0**	1089	**76**	1077	**165**	1063	***187***	*1047*	**189**	1059	**198**	1057	**227**	1053	**261**	1047	**320**	1037	**373**	1029	**414**	1022	**721**	969	**930**
2023	**0**	1115	**78**	1101	**168**	1084			**192**	1079	**202**	1077	**231**	1072	**265**	1065	**325**	1053	**378**	1043	**419**	1035	**729**	972	**927**
2024	**0**	1137	**79**	1121	**171**	1101			**195**	1096	**205**	1094	**235**	1087	**269**	1080	**329**	1066	**382**	1054	**423**	1045	**733**	973	**922**
2025	**0**	1165	**81**	1146	**174**	1123			**199**	1117	**209**	1115	**239**	1107	**273**	1099	**334**	1083	**387**	1070	**429**	1059	**739**	978	**922**
2026	**0**	1194	**83**	1172	**178**	1147			**203**	1140	**213**	1137	**244**	1129	**278**	1119	**340**	1101	**393**	1086	**435**	1074	**744**	983	**922**

PFMC
06/25/16