

GROUND FISH MANAGEMENT TEAM REPORT ON BIENNIAL HARVEST SPECIFICATIONS FOR 2017-2018

The Groundfish Management Team (GMT) received an overview from Mr. John DeVore of Pacific Fishery Management Council (PFMC) staff and discussed the materials provided under Agenda Item F.3. We offer the following thoughts and comments for consideration.

Annual Catch Limit Alternatives

The Council action under this agenda item is to adopt final preferred alternatives (FPA) for 2017 and 2018 harvest specifications for groundfish stocks and stock complexes. The outstanding decisions to be made are the selection of the FPA annual catch limits (ACLs) for canary, widow, and darkblotched rockfish, California scorpionfish, and black rockfish in California (CA).

Under the groundfish Fishery Management Plan (FMP) and regulations, an ACL is defined as a “harvest specification set equal to or below the Acceptable Biological Catch (ABC) in consideration of conservation objectives, socioeconomic concerns, management uncertainty, ecological concerns, and other factors.”

Canary Rockfish

Conservation Objectives

When setting an ACL, the Council is tasked with keeping the stock at or above the B_{40%} target level. With canary rockfish, the decision tables around steepness and uncertainty show different biomass levels within the 10 year projection timeframe depending on the state of nature. Under No Action (ACL equals ABC) and the base case, the stock is projected to be at 56.9 percent in 2017 and declining (assuming catch equivalent to the ACL) to 45.4 percent in ten years. However, under the low state of nature, the stock is projected to be below 40 percent by 2019, which would result in the 40:10 harvest control rule being implemented (a rebuilding plan would not be required).

Scientific Uncertainty for the Canary Rockfish Assessment

The range of canary rockfish ACL alternatives were selected to capture potential uncertainty in productivity parameters (i.e., natural mortality and steepness) of the most recent stock assessment¹. Stocks with lower natural mortality rates are less productive, and those with lower steepness values are less resilient to recovery from low population levels.

The No Action ACL (ACL equal to ABC) was established using the base case stock assessment model, which has the most probable assumptions for steepness and natural mortality (i.e., twice as likely as either the lower or higher assumptions). The alternative ACLs were developed to account for the possibility that steepness and/or natural mortality rates may be lower than assumed in the

¹ http://www.pcouncil.org/wp-content/uploads/2015/05/D8_Att1_Canary_2015_FULL-E-Only_JUN2015BB.pdf

base model, and as such, provide an additional buffer for scientific uncertainty beyond those associated with the No Action base model (i.e., sigma).

While there were changes in steepness and natural mortality in other assessments (e.g. widow rockfish), there was some additional attention paid to the uncertainty for canary rockfish given the unexpected change in stock status (i.e., the stock was rebuilt 15 years ahead of schedule). The GMT does recognize that the assessment is the best available science, as we have improved our understanding of rockfish productivity since the last full assessment; however, this further emphasizes the large influence that productivity parameters have on stock status and management. It is the GMT's understanding that the Scientific and Statistical Committee (SSC) will be having a productivity workshop in 2016, and may discuss the use of the steepness meta-analysis and other factors used in estimating productivity within stock assessments. Until new advice is available from the workshop, the Council could consider including some buffer between the ABC and the ACL to account for the additional scientific uncertainty by selecting Alternative 1 or 2, or some level between No Action and the alternatives.

The Oregon Department of Fish and Wildlife (ODFW) and Washington Department of Fish and Wildlife (WDFW) submitted comment regarding the canary rockfish ACL alternatives ([Agenda Item G.3.a, REVISED Supplemental ODFW Report](#) and [Agenda Item F.3.a, Supplemental WDFW Report](#), respectively). While both have similar goals of setting harvest limits that allow for fishing opportunity while maintaining the conservation objectives of the groundfish FMP, ODFW's approach (which is No Action Alternative) is to gradually reduce harvests until the target of B_{40%} is achieved ("fish down") by setting the ACL equal to the ABC. WDFW's approach is to fix harvests to the level associated with the yield with SPR 50 percent at B_{40%} level (i.e., 1,226 mt) and to hold harvest limits constant at that level for the short term until we can better understand how all of the sectors will operate (i.e. target or avoid) in regards to canary rockfish. In summary, the ODFW approach (No Action Alternative) provides larger near-term harvests, while the WDFW approach provides more consistency and precaution over the next two years.

Socio-Economic Considerations

Although the GMT did their best to project canary rockfish impacts for each sector, there is a relatively high level of uncertainty in these projections. Projecting canary impacts is an uncertain task because the stock has been overfished since 2000 and therefore the level of targeting or even bycatch that may occur with the rebuilt stock is unknown, as fishing operations have changed in the last two decades. For the non-trawl sectors, the GMT assumed that levels of targeting will be similar to historic levels (before canary rockfish were overfished), except in the primary shelf habitat of canary rockfish that is now closed (i.e., non-trawl rockfish conservation areas (RCAs), recreational depth restrictions).

For the shorebased Individual Fishing Quota (IFQ) fishery, there is uncertainty as to whether canary rockfish will be targeted, or will continue to be treated as a bycatch species that limits access to the more prolific shelf rockfish and flatfish stocks. The original IFQ model projections assumed that the increased canary rockfish ACLs would only provide higher attainment of canary rockfish (under targeting), and was not projected to influence attainment of co-occurring stocks. However, discussions in the Groundfish Advisory Subpanel (GAP) at the March 2016 meeting indicated that canary rockfish will not be a targeted species in the IFQ sector, because bycatch of canary rockfish is expected to continue to constrain access to the more abundant shelf rockfish stocks within their portfolios for both their midwater trawl (targeting widow, yellowtail,

chilipepper, and bocaccio rockfishes) and bottom trawl strategies (targeting lingcod, sanddab, arrowtooth flounder, and dover, English, and rex soles). A supplemental GMT report under Agenda Item F.6 will examine further how attainment rates of these shelf rockfish stocks could vary for each canary rockfish ACL alternative due to increased access to canary rockfish.

Management Uncertainty, Responsiveness of Inseason Monitoring, and Other Management Considerations

In [Agenda Item F.6., Attachment 2](#), there is a brief discussion of the capabilities to monitor catch inseason by sector. There are variety of timelines for data reporting of mortality estimates by sector. The at-sea and shorebased IFQ fleets are operating with data systems that allow for estimates within 24 hours of landing. Furthermore, beginning in 2017, any landings that include sablefish (e.g. primary, daily trip limit fisheries), will use electronic fish tickets. Oregon's commercial fisheries information are typically available within two weeks, and estimates are uploaded weekly into PacFIN. Washington typically has a 1-2 month lag, while California is currently operating under a 3 month data lag. In all three states, final recreational estimates are typically available monthly on a one-month delay.

The GMT also considered the surplus carryover provision of the shorebased IFQ program. The current National Marine Fisheries Service (NMFS) policy, based on a court ruling in 2014, is that NMFS will not issue surplus carryover quota pounds (QP) for IFQ species that have ACLs established equal to their ABCs ([Agenda Item F.4.a, Attachment 4, June 2014](#)). The GMT concluded that the canary rockfish stock is caught in all fisheries and thus, the ability to implement the carryover provision for the IFQ fishery alone was not a sufficient reason to set the ACL at a value lower than the ABC. Further, the GMT understands that participants in the IFQ program would receive a greater benefit in receiving higher QPs at the start of the year, instead of waiting for a potential carryover release in the following year. The GMT notes, however, that the GAP are better suited to weigh in on the benefits of both approaches.

Setting an Annual Catch Target (ACT)

While the Council could select an ACL lower than the ABC to account for management uncertainty (discussed above), another approach could be the use of an annual catch target (ACT). ACTs are similar to harvest guidelines (HGs) in that they are soft targets, not hard caps that require action if exceeded, and are useful when there is uncertainty in projections of fishery impacts, or delays in monitoring inseason catches. While the GMT did their best to model projected canary rockfish impacts by sector, there is a relatively high degree of uncertainty in our projections because the rebuilt status of canary rockfish may alter fishing behaviors (e.g., directed targeting or increased targeting of other stocks that were constrained by canary rockfish during the overfished era). Therefore, using the considerations discussed above for setting an ACL, the Council could instead consider setting an ACT to account for projected impacts that have some management uncertainty. An ACT could serve to establish a conservation-based harvest level without need for fishery closures.

Conclusion for Canary Rockfish ACL Alternatives

Canary rockfish has been at the forefront of discussions for both the ACL alternatives and two year allocations because it is one of the few stocks that impacts all sectors and because of potential uncertainty in the last assessment that determined the stock to have become rebuilt.

While decisions in regards to two year allocations to each of the sectors is of high importance, the GMT stresses that the decision of overall take (i.e., the ACL with or without an ACT) is the foremost priority since it influences both conservation and socio-economic importance. The GMT commend the authors of the 2015 canary rockfish assessment (Thorson and Wetzel) for providing decision tables to inform the Council of the potential conservation implications for low states of nature for both steepness and natural mortality (typically only one axis of uncertainty is provided). In turn, the GMT has done their best to provide the fishery values for each of the alternatives to best inform the Council of potential trade-offs between conservation and value.

Overall, the GMT recommends that the Council make at least a tentative adoption of a FPA ACL (with or without an ACT) and provide an indication on whether there is interest in an ACT under Agenda Item F.3. Taking such actions and providing guidance on the ACT concept would facilitate analysis of allocations and advisory body discussions under Agenda Item F.6. The GMT could provide additional information on projected impacts and allocations under Agenda Item F.6 that may help the Council confirm their FPA ACL (or other harvest specification) for canary rockfish.

The GMT therefore recommends that the Council consider the risk and trade-offs associated with the No Action (ODFW approach) and WDFW proposals when determining the FPA ACL for canary rockfish. **The GMT believes that the No Action alternative and WDFW approach provide an adequate range of ACLs to meet the FMP objectives. As such, the GMT believes that Alternative 1 (50 percent of the No Action ACL) and Alternative 2 (33 percent of the No Action ACL) are not appropriate for the FPA. Those alternatives are overly precautionary and do not meet the FMP objectives to meet the conservation objectives as well as achieve the optimum yield (OY) for canary rockfish and potentially for other co-occurring healthy stocks.**

Furthermore, the GMT recommends that the Council consider setting the ACL with the No Action alternative (ACL equals ABC, as endorsed by ODFW; [Agenda Item G.3.a. Supplemental Revised ODFW Report](#), March 2016), but setting an ACT of 1,226 mt based on the WDFW proposal ([Agenda Item F.3.a Supplemental WDFW Report](#)). An ACT approach would frame management measures to attain the ACT, but if actual catch is higher than anticipated it may not require fishery closures unless we are at risk of exceeding the ACL.

Widow Rockfish

(No Action: 2,000 mt constant catch ACL; Alternative 1: ACL Equals ABC (P*0.45))

Conservation Considerations

Widow rockfish was assessed in 2015² and was determined to be healthy (i.e., B_{75.1%} percent of unfished), abundant (i.e., 60,608 mt female spawning biomass), and well above the management target of B_{40%} (Figure 1). The recent assessment also shows that in retrospect, historical removals were near the target harvest depletion of B_{40%} and it is highly likely the stock was never overfished.

² http://www.pcouncil.org/wp-content/uploads/2015/08/H3_Att10_Widow_FULLAssmt_E-Only_SEPT2015BB.pdf

The Council and advisory bodies have discussed how to set an appropriate ACL for widow rockfish since the stock was declared rebuilt based on the 2011 stock assessment. As the Council considered the new rebuilt status in the 2013-2014 biennial cycle, they discussed the trade-offs being considered now (e.g. conservation risks, uncertainty, and allowing fishing opportunity) and went with a constant catch approach as an intermediate option to the ABC=ACL. As the GMT discusses below, the 2015 assessment is regarded as much improved compared to the 2011 assessment. The 2015 assessment modeled the impacts associated with maintaining an ACL of 2,000 mt long-term until 2026, and projected this would increase the stock size closer to unfished biomass (i.e., 91.8 percent depletion).

Alternative 1 would increase the ACL from No Action (from 2,000 mt to 13,508 mt). Alternative 1 is from the base case model using the most probable assumptions for natural mortality, steepness, and recent model-based recruitment signal strength. ACLs for Alternative 1 are set to equal the ABC, starting at 13,508 mt and gradually decreasing harvests until the stock achieves the target management depletion of $B_{40\%}$ (~9,000 mt).

Scientific Uncertainty

The 2015 widow rockfish assessment was recognized by the Stock Assessment Review (STAR) Panel and the Scientific and Statistical Committee (SSC) for having a robust model structure, data richness (e.g., indices, removals, age compositions, recruitment estimates), and for utilizing the most recent life-history information (e.g., Thorson steepness prior update).

The assessment was unique in that it framed uncertainty by simultaneously examining three model parameters (i.e., natural mortality, steepness, and strength of recent model-estimated recruitment) in a single decision table. Even under the low state of nature, the stock is expected to remain healthy if ACLs equal ABCs, and this scenario actually helps the stock better achieve the long-term management goal of achieving the OY. Furthermore, while the projected depletion is technically at 39 percent in 2026, this assumes the full take of the ACL (although historical attainment is generally low), and the uncertainty with projections increases further into the future. Therefore, the risks associated with being wrong are low.

Socio-Economic Considerations

While canary rockfish may be predominantly a bycatch species limiting access to more abundant shelf rockfish species, widow rockfish are expected to be the primary target of the overall midwater shelf rockfish trawl fishery (non-whiting). As can be seen in Figure 1, widow rockfish landings (blue shadings) comprised the bulk of overall catch in the historic midwater non-whiting trawl fisheries.

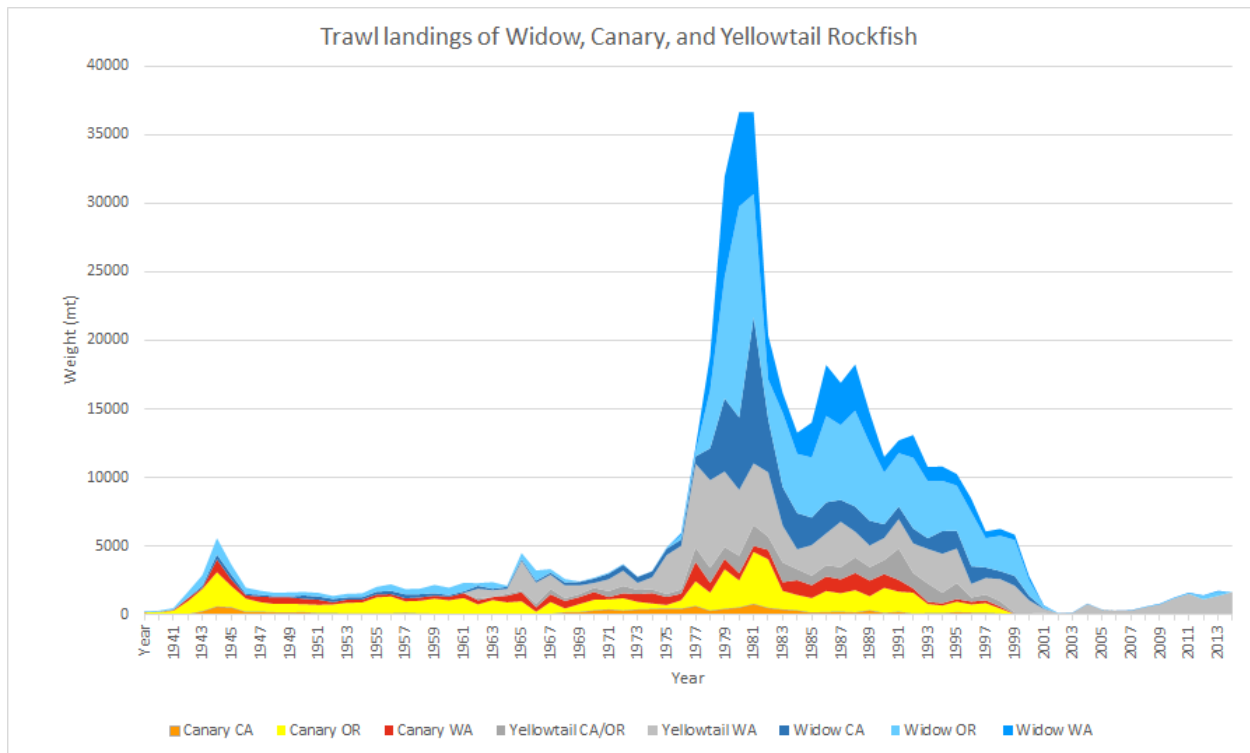


Figure 1. Trawl landings of widow, canary, and yellowtail rockfish stocks, per the reconstructed landings from the recent-most stock assessment removals.

Given that widow rockfish were historically a major target stock of the midwater non-whiting trawl strategy in all three states, the expectation is that they will once again become a primary target of future fishing activity, especially if the Council increases the ACL from 2,000 mt (No Action) to 13,508 mt (Alternative 1) for 2017. The trawl IFQ model projects that 80 percent of the ACL will be obtained for either ACL alternative. The IFQ model assumes average historical attainment rates for widow rockfish, assumes that there is no effect of changing ACLs of co-occurring species (i.e. canary rockfish), and therefore, there is no difference in attainment between the ACL alternatives for widow rockfish. The GMT will be providing an additional ad-hoc analysis under Agenda Item F.6. for canary rockfish allocations, and will provide a better estimate of widow rockfish attainment. There are considerable economic trade-offs between the two ACL alternatives, as there is a 11,500 mt difference between the two options. Based on a conservative price assumption (\$0.45 for trawl), the difference in value between the two ACL alternatives is \$11.4 million assuming the full 11,500 mt is taken, or \$9.1 million if 80 percent of the 11,500 mt difference is taken (the IFQ model assumption). Values are ex-vessel, and are conservative with respect to economic impacts since they do not account for effects generated by processors and indirect effects generated by communities as a whole. The IO-PAC model can be used to generate economic impacts that include these effects. Total West Coast income impacts of \$11.4 million and \$9.1 million in ex-vessel revenue are \$28.9 million and \$23.1 million respectively; total employment effects are estimated at 400 and 320 respectively.

Widow rockfish are also an important bycatch species for the at-sea sectors in prosecuting their whiting allocations. In recent years, the sectors have been forced to constantly move to avoid landing widow rockfish (among other overfished species) in order to not be shut down, which is costly to the vessels. Under No Action, there is a less than 1:20 chance for the catcher-processors

and motherships to exceeding their allocation. However, Alternative 1 reduces the risk to less than 1:100 chance for the catcher-processor sector and no perceivable risk (under the simulation parameters) to the mothership sector to exceed their Amendment 21 allocation.

Management Uncertainty

Widow rockfish are a target stock primarily of the IFQ midwater non-whiting trawl fisheries with 100 percent observer coverage or electronic monitoring, so mortality is well monitored, tracked, and managed via individual catch accountability. Further, as a target stock, the majority of catch is landed dockside, which allows for timely monitoring (e.g., electronic fish tickets) and allows for biological sampling of age compositions, maturity, and species compositions (to determine contamination of other species in widow rockfish market category landings). Widow rockfish is caught as bycatch in the Pacific whiting fisheries, which have 100 percent observer coverage and near real-time monitoring. However, with the newly emerging midwater widow/ yellowtail/ canary rockfish fishery, the Council may want to consider a risk-adverse approach in their selection of an ACL since there are uncertainties with the amount of targeting and bycatch that may occur now that the stock has been rebuilt (i.e. more encounters), and additional opportunity with increasing allocations of co-occurring species (i.e. canary rockfish) as suggested in the Supplemental WDFW Report.

Conclusion

The GMT recommends Alternative 1 (ACL = ABC P*0.45), as the “risk of getting it wrong” with widow rockfish (as compared with canary rockfish) are lower and provides additional fishing opportunity. The GMT does not recommend No Action (constant catch of 2,000 mt) because it is overly precautionary given the level of risk.

Darkblotched Rockfish

Conservation Considerations

In 2013, a full assessment of darkblotched rockfish³ 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 assessment⁴, the stock is still at 39 percent depletion (i.e. still managed under a rebuilding plan). The two ACL alternatives (No Action, under the existing rebuilding plan harvest rate of SPR 64.9 percent, and Alternative 1, ABC = ACL) are not expected to affect rebuilding success since the stock is projected to be rebuilt by 2016 before these ACLs would be implemented.

Scientific Uncertainty

Unlike widow rockfish, darkblotched rockfish is similar to canary rockfish in that the decision table under the low state of nature has a depletion of 9 percent in 2017; in other words, the cost of “being wrong” means that the stock is still overfished under any ACL alternative (i.e., the Council can’t select an ACL alternative low enough to address the low state of nature). While the consistent results of the last two assessments show some stability in the progress of the stock toward rebuilt

³ http://www.pccouncil.org/wp-content/uploads/Darkblotched_2013_Assessment.pdf

⁴ http://www.pccouncil.org/wp-content/uploads/2015/05/D8_Att3_Darkblotched_2015_FULL-E-Only_JUN2015BB.pdf

status, the Council could still consider selecting an ACL lower than the ABC as proposed in the [Supplemental WDFW Report](#). However, this is the second assessment that has resulted in the stock being almost rebuilt at $B_{40\%}$, and under either ACL alternative, the stock is projected to be rebuilt in 2016.

Socio-Economic Considerations

In 2014, a lightning-strike tow of darkblotched rockfish in the at-sea mothership sector caused the sector to shut down as they exceeded their sector allocation. An emergency Council meeting in October 2014 allowed for a transfer of unused darkblotched rockfish allocation from the catcher-processor sector to allow the mothership sector to reopen. The at-sea sectors have continued to voice concerns about the potential to exceed their allocations; however, under Alternative 1, the risk of exceeding the allocation decreases from a 5 percent chance for both catcher-processors and motherships under No Action, to 0.01 percent for catcher-processors and less than a 1 percent chance for the mothership sector ([Agenda Item F.3.a, Attachment 1, April 2016](#)).

Management Uncertainty

Currently, there is very little uncertainty with the management of darkblotched rockfish in the 2017-2018 biennial harvest specifications cycle. There could be increased uncertainty related to the access of the trawl fleet to darkblotched rockfish if the rockfish conservation areas (RCAs) are removed in the future. However, it is the GMT's understanding that this would not take place until at least 2019.

Changing T_{target}

If the Council chooses an action alternative that changes the default harvest control rule (HCR), the Council should also consider revising the T_{target} in the current rebuilding plan (i.e. 2025). Given that the stock is projected to be rebuilt by 2016, there is no rebuilding analysis to inform a decision on a new T_{target} . If the Council chooses to revise the T_{target} for darkblotched rockfish, the GMT recommends the Council consider 2019 as the new T_{target} , which is two assessment cycles away. If the 2017 assessment update indicates the stock is rebuilt as projected, the changes to regulations would come through the 2019-2020 biennial harvest specifications process. However, if darkblotched rockfish is not found to be above $B_{40\%}$ in 2017, there will be additional time to meet a T_{target} of 2019. The GMT acknowledges the probability of not being rebuilt in 2017 is quite low. As there is no difference in the anticipated time to rebuild under any alternative, it is not anticipated that a change to T_{target} would increase the analytical burden. While the GMT notes that, generally speaking, a longer T_{target} increases the probability of rebuilding, in this circumstance, the best available information indicates a 100 percent probability of rebuilding by any year after 2016, under either alternative. Therefore, **the GMT recommends the Council consider setting a T_{target} rebuilding year of 2019 for darkblotched rockfish.**

Conclusions

Catch of darkblotched rockfish has been well below the ACL in recent years (<30 percent) and with limited access to the slope under the current RCA structure, **the GMT sees merit in selecting the Alternative 1 darkblotched rockfish ACL (ACL = ABC).** As described above, the consequences of “getting it wrong” are the same for both ACL alternatives and, in this situation, it may be appropriate to be less risk-averse given the socio-economic payoffs we might see for

trawl fisheries. **However, the GMT recommends that if the Council chooses a darkblotched rockfish ACL under a new HCR, they should also consider setting a new T_{target} of 2019.**

Black Rockfish (CA)

Conservation Considerations

The stock assessment for black rockfish in California was completed in 2015⁵ and indicated the stock was in the precautionary zone with a depletion of 33 percent. However, the stock is on an upward trajectory, and is expected to be above the management target in 2017, with a depletion of 42 percent.

Alternative 1 was requested by the Council to explore the possible trade-offs between a constant catch scenario that would keep the stock above B_{40} over a 10 year period (319 mt ACL) compared to the No Action ACLs of 349 and 347 mt in 2017 and 2018, respectively. Both the No Action and Alternative 1 have similar starting and ending depletions of 42 percent (2017) and 52 percent in (2026), respectively.

Scientific Uncertainty

Uncertainty in model outputs for the California model was characterized by exploring various model specifications. Initial exploration included natural mortality and steepness values, and uncertainty in historical trawl catches. There was very little sensitivity to steepness nor to trawl catches. Predicted population scale and status were most sensitive to changes in natural mortality. The decision table analysis with high and low states of nature expressed as natural mortality of +/- 0.03 from the base model natural mortality values results in 2026 depletions between 24 percent (for low natural mortality/high catches) and 73 percent (for high natural mortality/low catches). Both Alternatives result in similar depletion rates at the end of the ten year period, as a result the GMT does not see any biological benefits of Alternative 1.

Socio-Economic Considerations

While Alternative 1 provides stability with a constant ACL of 319 mt over 10 years, the No Action ACL does not drop to 319 mt until 2023. As a result the No Action Alternative would provide for additional harvest until 2022.

Management Uncertainty

Mortality in both the recreational and commercial fisheries are tracked inseason, with varying degrees of lag time when the data becomes available. However, the majority of the black rockfish mortality accrues north of 40°10' N. lat. and given the ability of commercial fishery samplers to sample the majority of those landings and obtain landings data for PacFIN's Quota Species Monitoring (QSM) Best Estimate Report (BER) on a weekly basis, preliminary data for the commercial fishery can be obtained on a weekly basis. Estimates in the recreational fishery are available monthly with a one month lag.

⁵ http://www.pcouncil.org/wp-content/uploads/2015/10/I3_Att1_Black_Rockfish_FullAssmtElectricOnly_Nov2015BB.pdf

Conclusions

The GMT recommends that the Council select the No Action Alternative as this provides increased opportunity until 2022 and the consequences of “getting it wrong” are minimal as both alternatives result in similar depletion over the next 10 years. Given the stock’s importance to both the recreational and commercial nearshore sectors, as well as the uncertainties in the assessment, it is likely that the stock assessment will be updated before the No Action ACL drops below the Alternative 1 ACL of 319 mt.

California Scorpionfish

Conservation Considerations

For California scorpionfish, the No Action ACL for 2017 and 2018 is 264 and 261 mt, respectively. These are based on the default harvest control rule, which has a P* of 0.45 and establishes the ACL equal to the ABC. Alternatives 1 and 2 ACLs are 150 mt. At the November 2015 meeting, Council recommended the integrated alternative including a 150 mt ACL and a 111 mt annual catch target (ACT).

In November 2015, the GAP also stated that they believed the 111 mt ACT would be expected to provide sufficient amounts to support satisfactory seasons for the recreational and commercial sectors. Further, the 111 mt amount was chosen because this was the ACL amount set for 2015-2016. While the decision to establish an ACT will be made under Agenda Item F.6, it also relates to the decision to set the ACL under Agenda Item F.3.

Socio-Economic Considerations

Harvest in 2014 exceeded the OFL, and as a result, in 2015 the recreational season was shortened from a year-round fishery to closing the months of September through December. This shortened season, combined with enhanced inseason tracking and industry communication and coordination with the California Department of Fish and Wildlife (CDFW) resulted in the preliminary estimates from 2015 harvest remaining within allowable limits. Since the recreational sector takes the vast majority of California scorpionfish (approximately 97 percent from 2010 to 2014), it will be important to select an ACL/ACT that will provide stability (i.e., no inseason adjustments) to the recreational fishery within the existing season structure. However, there are also a handful of commercial fishers harvesting California scorpionfish who would benefit from maintaining the highest fishing opportunities for this stock. The Council should consider setting an ACT under Agenda Item F.6 that is high enough to accommodate both the commercial and recreational fisheries while taking into account management uncertainty (i.e., evaluate the buffer between the ACL and ACT).

Management Uncertainty

Mortality in both the recreational and commercial fisheries is tracked inseason, with varying degrees of lag time before the data become available. The largest component of California scorpionfish mortality is the recreational fishery, and estimates of catch in this fishery are available with an approximately one-month lag. Port fishery technicians collect commercial landings data basis on a weekly basis for PacFIN’s Quota System Monitoring Best Estimate Report (QSM BER) reporting. These nearshore fishery data are now being forwarded directly to fishery managers and because of this, fishery managers now have access to those data on that same weekly basis, thus

improving inseason monitoring and management. This alleviates issues that were a result of extended time lags in fish ticket data entry which severely hampered inseason monitoring in the past.

Under Agenda Item F.3, the GMT recommends the Council provide guidance on whether there is continued interest in an ACT for California scorpionfish. Providing this guidance would facilitate the discussion on the level of buffer needed to account for management uncertainty and advisory body discussions under Agenda Item F.6.

Conclusions

Both the No Action and Alternative ACLs and ACTs are projected to maintain the stock at a level above the projected mortality estimate for both the commercial and recreational sectors combined. **The GMT recommends the 150 mt ACL (Alternatives 1 and 2) due to the age of the assessment and will comment on the value of the ACT (after Council guidance) under Agenda Item F.6.**

Recommendations

GMT Recommendations:

- **Canary Rockfish**
 - **The Council make at least a tentative adoption of a FPA ACL (with or without an ACT) and provide an indication on whether there is interest in an ACT under Agenda Item F.3.**
 - **Remove Alternative 1 (50 percent of No Action) and Alternative 2 (33 percent of No Action) from consideration for the FPA.**
 - **The Council could consider setting the ACL with the No Action alternative (ACL equals ABC, as endorsed by ODFW; [Agenda Item G.3.a. Supplemental Revised ODFW Report](#), March 2016), and set an ACT of 1,226 mt based on the WDFW proposal ([Agenda Item F.3.a. Supplemental WDFW Report](#)).**
- **Widow Rockfish**
 - **The Council adopt Alternative 1 (ACL = ABC P*0.45), as the “risk of getting it wrong” with widow rockfish (as compared with canary rockfish) are lower and provides additional fishing opportunity.**
 - **The Council not adopt the No Action (constant catch of 2,000 mt) because it is overly precautionary given the level of risk.**
- **Darkblotched Rockfish**
 - **The Council consider selecting the Alternative 1 darkblotched rockfish ACL (ACL = ABC).**
 - **The GMT recommends that if the Council chooses a darkblotched rockfish ACL under a new HCR, they should also consider setting a new T_{target} of 2019.**
- **Black Rockfish (CA)**
 - **The Council select the No Action Alternative as this provides increased opportunity until 2022 and the consequences of “getting it wrong” are minimal as both alternatives result in similar depletion over the next 10 years.**
- **California Scorpionfish**

- **The Council provide guidance on whether there is continued interest in an ACT for California scorpionfish.** Providing this guidance would facilitate the discussion on the level of buffer needed to account for management uncertainty and advisory body discussions under Agenda Item F.6.

PFMC
04/10/16