

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW) REPORT ON
GROUNDFISH BIENNIAL HARVEST SPECIFICATIONS AND MANAGEMENT
MEASURES FOR 2015-2016 AND BEYOND

As mentioned at the Council meeting in March, WDFW has some concerns about the “data moderate” assessments for minor nearshore rockfish north of 40°10’ N. latitude, the “data poor” calculations for cabezon and kelp greenling off Washington, and how they be used for management in 2015 and 2016. Our apprehensions stem primarily from the variations in nearshore management approaches among the three states that have led to significant differences in the recent catch histories for these stocks, which form the basis of these “data moderate” assessments and “data poor” calculations.

Other factors to consider include the different management approaches described in the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (i.e., harvest specifications at the stock complex vs. individual stock levels), differences in the abilities of the three states to take independent action to conserve and manage nearshore stocks, and the effects of various alternatives for allocation of nearshore stocks among the states relative to conservation and economic return. The purpose of this report is provide information for background and management context, alternatives for nearshore harvest guidelines, and our recommendations.

Background – Washington Nearshore Management

The recreational and commercial nearshore rockfish fisheries developed in the late 1970s and early 1980s as charter boats and commercial hook-and-line fishers diversified their target strategies from salmon to bottomfish and Pacific halibut. Commercial fishers used surface hook-and-line and jig gear—most targeting black rockfish while one individual targeted yellowtail rockfish. Landings were recorded as “rockfish” on fish tickets, and species composition data were very sparse. Many recreational charter boats also fished commercially for rockfish when they were not taking passengers for hire.

WDFW began its black rockfish tagging program in the 1980s and survey catch-per-unit-of-effort (CPUE) began to decline in the early 1990s. With reports from commercial fishers also indicating that it was taking them longer to find black rockfish, WDFW suspected overfishing may be occurring. In 1992, WDFW imposed a trip limit of 100 pounds on black rockfish and reduced recreational rockfish bag limits from 15 to 12. In an effort to avoid localized depletion and conserve Washington’s nearshore rockfish resources to provide sustainable recreational fisheries in the future, WDFW closed its directed nearshore commercial fisheries in 1995 and further reduced its recreational rockfish bag limit to 10 in 1996.

In 1997, the Council became aware of commercial nearshore harvesters delivering live groundfish into the states of California and Oregon. The California Department of Fish and Wildlife (CDFW) reported that landings of commercial nearshore rockfish increased by 518% from 1997 to 1998, as a result of the live fish fishery, and the Oregon Department of Fish and Wildlife (ODFW) reported similar increases. The live fish fishery had not yet developed off Washington; therefore, as a proactive measure to avoid some of the problems we had heard about down south, WDFW prohibited landings of live groundfish beginning in 1999.

Minor Nearshore Rockfish Complex North of 40°10' N. latitude

The minor nearshore rockfish complex north of 40°10' N. latitude is comprised of the following rockfish stocks: black and yellow, blue, brown, calico, China, copper, gopher, grass, kelp, olive, quillback, and treefish.

Of these, the only stocks that have been assessed are blue rockfish south of 42° N. latitude, and China, copper, and brown rockfish in the recent coastwide data moderate assessments. Blue rockfish were assessed south of 42° N. latitude in 2007 and a component overfishing limit (OFL) was calculated for the portion of the stock estimated to be between 40°10' N. latitude and 42° N. latitude. Blue rockfish north of 42° N. latitude and all of the other minor nearshore rockfish stocks north of 40°10' N. latitude (except China, copper, and brown) have data poor calculations, which are based on catch history without indices of abundance; these calculations were done in 2011 in preparation for the 2013-2014 biennial management process and have not been updated.

Of these stocks, the only ones with significant catches recorded off Washington are: blue, China, copper, and quillback rockfish. There have been rare reports of brown rockfish and grass rockfish caught off Westport in the last decade, and no catches of the other minor nearshore rockfish stocks have ever been reported.

Data Moderate Assessments and Data Poor Calculations

As we noted in March, the use of data moderate assessments began in preparation for the 2015-2016 biennial management cycle. Prior to this cycle, Stock Assessment Teams (STATs) would either complete full assessments or update prior full assessments. Full assessments attempt to comprehensively investigate all available information on a stock. They involve a time-consuming process with the STAT Team reviewing fishery independent survey data (e.g., the Northwest Fisheries Science Center annual trawl survey) and working with the individual states to mine their respective data relative to surveys, catch history, CPUE, and biological data (e.g., ages, lengths). Stock Synthesis can incorporate parameters such as growth and maturity, composition of ages or sized in the population, the stock-recruitment relationship, and gear selectivity and is reviewed by a Stock Assessment Review (STAR) Panel. A STAR Panel will usually review only one full assessment as the discussion includes multiple model iterations and sensitivity runs. During an update, none of the parameters specified in the previous full assessment are changed, but the latest survey and/or catch data are included.

Data moderate assessments, on the other hand, do not incorporate the parameters listed above for Stock Synthesis, and use catch history and an index of abundance in the XDB-SRA model, which is also reviewed by a STAR Panel. However, in the case of these minor nearshore rockfish stocks, there are no fishery independent surveys, so fishery-dependent CPUE is typically used. As noted previously, WDFW's concerns with the data moderate assessment for China rockfish are rooted in the use of Oregon's recreational CPUE to the entire northern area without considering the significant differences between the Washington and Oregon recreational fisheries, including CPUE, bag limits, discard rates, lengths, and competition for resources from commercial fisheries. While there have been other situations when stock assessments produced unanticipated results, we do not believe that these data moderate assessments nearshore stocks do not reflect the reality off our coast. We hope this can be addressed through state-specific full assessments for minor nearshore rockfish in the next cycle.

Data poor calculations are estimates of harvestable fish based mainly on catch history without any indices of abundance using the DB-SRA model. While the Washington recreational fishery has remained relatively stable in terms of fishing regulations since around 2007, there is inter-annual variability in catches, particularly of minor nearshore rockfish, which are not targeted and, in many cases, discarded. Depending on which years are used to produce the estimate and the lack of routine updates to the data poor calculations, fisheries may have limits that are not responsive to changing conditions for several years.

Management Approaches Under the MSA

The Council's Scientific and Statistical Committee (SSC) has pointed out in the past that it is a matter of policy associated with risk tolerance, to manage stocks at the complex level (i.e., to manage to one OFL for the entire complex comprised of multiple stocks), rather than at the stock-specific component OFL. However, as the National Marine Fisheries Service (NMFS) stated again in March, they expect the Council and the states to monitor catches at the stock-specific level and, if overfishing of a particular component stock occurs on a regular basis, NMFS would recommend that the Council remove that stock from the complex and manage it individually.

To aid the Council's deliberations on the SSC's and NMFS' guidance, WDFW is recommending a range of allocation alternatives for state-specific harvest guidelines for analysis that includes retaining management at the complex level as well as stock-specific harvest guidelines.

In general, WDFW is an advocate for the MSA and the National Standard Guidelines. We believe they are appropriately conservation-oriented and provides the flexibility to Councils, through fishery management plans, to make sound management decisions that take into account biological and socio-economic effects. However, while WDFW agrees with the conservation approach of stock-specific management as a matter of principle, we recognize the management challenge presented by the results, believe that there are likely important differences in the biology and management history of nearshore stocks among the states, and see that there are important scientific questions left unanswered by the data moderate assessments, as well as

fundamental questions about the Council's jurisdiction over the nearshore stocks. For these reasons, WDFW joined the other two states in recommending the Council analyze and consider delegating the authority to manage nearshore stocks to the state fish and wildlife agencies.

Again, as was pointed out in March, the states of Washington, Oregon, and California have different viewpoints about the desirability of nearshore management delegation. The differences at this time, however, are more a matter of administrative feasibility and practicality. WDFW and ODFW have very streamlined rulemaking processes with their agency directors having respective authority to take emergency action. CDFW, on the other hand, does not have that management authority and, while CDFW can take action to keep harvest levels within a federal quota or harvest guideline, the agency could not take such action absent a federally established limit. In addition, CDFW has advised that it does not have the budgetary resources to take on management at this time. Therefore, for purposes of conservation, it is in the Council's and California's best interest to keep nearshore stocks south of 40°10' N. latitude managed through the Council process.

WDFW sees pros and cons associated with state management of nearshore stocks north of 40°10' N. latitude. We are confident that we have the tools needed to conduct state-specific fishery-independent surveys, monitor catches, take inseason action to keep harvest at appropriate levels, and coordinate our regulations with the other states for shared stocks, as needed. However, to the extent that nearshore rockfish are biologically connected across state boundaries, we are concerned about how we would coordinate the sharing of the harvest of those stocks with the other states to ensure stock-wide conservation is achieved.

Washington Harvest Guideline Alternatives

In March, WDFW identified two harvest guideline alternatives for minor nearshore rockfish north of 40°10' N. latitude for Council consideration that are not based on catch history—one approach uses the miles of coastline for each state north of 40°10' N. latitude and the other has a Washington-specific harvest guideline of 10 mt of minor nearshore rockfish applied at the complex level. We have also added an alternative that is based on catch history—one that accommodates Washington's highest catch amount of each component stock for the last ten years (2004-2013).

We describe all of the alternatives in more detail below and, as noted above, include sub-options for each alternative, as appropriate—one that allows for continued management at the complex level and the other for managing to stock-specific component limits. In all cases, we used the proposed ACLs for 2015 with a P* value of 0.45; these values can be adjusted as a result of Council decision-making and updated to reflect ACLs for 2016, as appropriate.

Alternative 1 – Length of Coastline

Using Geographic Information Systems software, we calculated the length of the three nautical mile state boundary, which is projected out from the official shoreline of each state, north of 40°10' N. latitude (Table 1).

Washington's coastline extends from the U.S./Canada border to 46°15' N. latitude; Oregon's coastline is from 46°15' N. latitude to 42° N. latitude; and California's coastline is from 42° N. latitude to 40°10' N. latitude. In all cases, continuous north-south lines were drawn along the coast, excluding the bays and estuaries.

Table 1. Miles of coastline adjacent to Pacific Ocean waters for Washington, Oregon, and California north of 40°10' N. latitude.

State	Miles	% Coast
Washington	166.14	24.78%
Oregon	330.93	49.64%
California	173.34	25.86%

Sub-option A – Apply the coastline percentages for each state to the entire minor nearshore rockfish north of 40°10' N. latitude complex annual catch limit (ACL) to determine state-specific harvest guidelines; management would occur at the complex level (Table 2).

Table 2. State-specific harvest guidelines for minor nearshore rockfish complex north of 40°10' N. latitude, based on miles of coastline applied to an ACL of 69 mt for 2015.

State	% Coast	HG (mt)
Washington	24.78%	17
Oregon	49.64%	34
California	25.86%	18

Sub-option B – Apply the coastline percentages for each state to each component stock caught in that state's fisheries (Note: For stocks that are only caught in two states, divide the stock proportionally between those two states); sum to a total; the total would be a state-specific harvest guideline; management would occur at the complex level (Table 3).

Table 3. State-specific harvest guidelines for minor nearshore rockfish complex north of 40°10' N. latitude, applying coastline percentage to component ACLs for stocks caught in each state. (Note: Shaded cells represent “trace” amounts.)

Stock	ACL	WA	OR	CA
Black and yellow	0.0		0.0	0.0
Blue (CA)	17.0			17.0
Blue (OR & WA)	26.9	9.0	17.8	
Brown	1.7	0.4	0.8	0.4
Calico				
China	6.2	1.5	3.1	1.6
Copper	9.7	2.4	4.8	2.5
Gopher				
Grass	0.5	0.1	0.2	0.1
Kelp	0.0		0.0	0.0
Olive	0.3		0.2	0.1
Quillback	6.2	1.5	3.1	1.6
Treefish	0.2		0.1	0.1
Total HG (mt)	69	15	30	23

Sub-option C – Apply the coastline percentages for each state to each component stock caught in that state’s fisheries; have state-specific harvest guidelines for each component stock; management would occur at the component stock level (Table 4).

Table 4. State- and stock-specific harvest guidelines for minor nearshore rockfish complex north of 40°10' N. latitude, applying coastline percentage to component ACLs for stocks caught in each state. (Note: Shaded cells represent “trace” amounts.)

Stock	ACL	Harvest Guidelines (mt)		
		WA	OR	CA
Black and yellow	0.0		0.0	0.0
Blue (CA)	17.0			17.0
Blue (OR & WA)	26.9	9.0	17.8	
Brown	1.7	0.4	0.8	0.4
Calico				
China	6.2	1.5	3.1	1.6
Copper	9.7	2.4	4.8	2.5
Gopher				
Grass	0.5	0.1	0.2	0.1
Kelp	0.0		0.0	0.0
Olive	0.3		0.2	0.1
Quillback	6.2	1.5	3.1	1.6
Treefish	0.2		0.1	0.1

For Alternatives 2 and 3, the remaining complex ACL could apply to Oregon and California jointly (i.e., from 40°10' N. latitude to 46°15'N. latitude), or they may choose to have state-specific harvest guidelines either at the complex or component stock level.

Alternative 2 – 10 mt Harvest Guideline for Washington

In March, WDFW arbitrarily selected 10 mt as an alternative for a harvest guideline of minor nearshore rockfish north of 40°10' N. latitude as a complex ACL for Washington; management would occur at the complex level.

Alternative 3 – Harvest Guideline for Washington (Ten-Year Highest Catch)

Sub-option A – Identify the highest catch amounts for each component stock caught in Washington’s fisheries for the last ten years (2004-2013) and sum to a total; the total would be a Washington harvest guideline; management would occur at the complex level (Table 5).

We note that in our Ocean Sampling Program there is a category for “unspecified” or “general” rockfish caught in our recreational fishery with varying amounts each year; to the extent that some of these minor nearshore rockfish species are in this general category, we have included it as a component in Table 5.

Table 5. Washington’s highest recreational catches of identified minor nearshore rockfish and unspecified rockfish, 2004-2013.

Stock	ACL	WA Catch
Blue (OR & WA)	26.9	2.9
China	6.2	3.3
Copper	9.7	2.2
Quillback	6.2	2.8
Unspecified NS		0.8
Total Harvest Guideline (mt)		12

Sub-option B – Set harvest guidelines for each component stock caught in Washington’s fisheries at amounts equal to the highest catch for the last ten years (2004-2013); management would occur at the component stock level (Table 6). For the “unspecified” nearshore rockfish, we used the catch composition percentages to distribute catch from that general category among the component stocks listed.

Table 6. Washington’s highest catches of minor nearshore rockfish component stocks for the last ten years (2004-2013), including a distribution of “unspecified” nearshore rockfish based on catch composition data.

Stock	ACL	WA HGs (mt)
Blue (OR & WA)	26.9	3.2
China	6.2	3.6
Copper	9.7	2.3
Quillback	6.2	3.0

Discussion of Alternatives

For the most part, Alternatives 1 and 3 would accommodate recent catches of minor nearshore rockfish in Washington, especially when applied at the complex level, providing flexibility for minor inter-annual variability in harvest. However, we do not think it would be appropriate to use Alternative 1, Sub-option A, as it would include a portion of the blue rockfish stock from south of 42° N. latitude. Component stock harvest guidelines would also work provided they were set at high enough levels; however, this may be difficult to do with the substantial reduction in minor nearshore rockfish ACLs in 2015 and 2016, compared to 2014 and previous years.

Alternative 2, which is a complex harvest guideline of 10 mt, would not accommodate the highest catches of these component stocks in the most recent five years (2009-2013) or the last ten years (2004-2013). While the complex approach described in Alternative 2 would provide some flexibility, we note that when one of these component stocks has higher than average catches, other component stocks tend to have a similar trend. So, a harvest guideline of 10 mt could arbitrarily impose a constraining limit in years of higher nearshore rockfish abundance.

As mentioned previously, minor nearshore rockfish stocks are not targeted and anglers cannot avoid them when targeting other healthy stocks, such as black rockfish, lingcod, and Pacific halibut. Minor nearshore rockfish stocks are caught in all recreational target strategies, or trip types (Table 7), and from the port sampling data it is difficult to determine which catches are truly incidental to a particular target strategy.

Table 7. Percentage of minor nearshore rockfish catches by target strategy in Washington recreational fisheries, 2009-2013.

Stock	Recreational Target Strategy		
	Halibut	Bottomfish	Salmon
Blue	7%	69%	25%
China	8%	64%	28%
Copper	11%	58%	31%
Quillback	19%	58%	22%

In reviewing the geographic distribution of Washington's minor nearshore rockfish catches by recreational marine catch area, the vast majority (88%) of catch occurs in the north coast (Areas 3 and 4). This is to be expected as the bottom habitat in this area is hard substrate and high rocky relief, where these species tend to congregate. There are some minor nearshore rockfish caught in the northern portion of Area 2 around Cape Elizabeth, but little to no catches in the areas off Grays Harbor and further south where the bottom habitat is a mixture of sand and mud.

However, to avoid overfished canary and yelloweye rockfish, north coast recreational anglers have been prohibited from retaining bottomfish seaward of 20 fathoms since 2005; as a result, more fishing pressure has been placed on nearshore rockfish stocks. If management is applied at the component stock level and harvest limits are set severely low (e.g., at 1-2 mt), then minor nearshore rockfish would be more constraining than canary or yelloweye rockfish.

Applying non-retention measures for minor nearshore rockfish stocks in season would be an option; however, we would then lose our only opportunity to collect biological samples for these stocks for a future full assessment.

While the recent development and usage of descending devices would help increase survivability of released nearshore rockfish, harvest limits may be set so low that reduced seasons or bag limits may need to be considered. Such drastic measures would be detrimental to Washington's recreational fisheries and the coastal communities whose businesses depend upon them.

Finally, the outreach and communication that is key to persuading anglers to use descending devices is also hampered by the determination that these minor nearshore rockfish stocks are deemed to be "healthy" (i.e., at a depletion of B40% or higher). Trying to explain to stakeholders the rationale for reducing catch to 25% of the average catch level, in the context of the stock being "healthy," is particularly challenging. While anglers are more than willing to "do the right thing" to rebuild stocks that are overfished, it is viewed as a temporary measure. With the determination that these stocks are at B40%, the reduced catch level is the maximum amount that anglers would be available to harvest in the future. Again, this does not seem reasonable given the proactive measures that Washington has already taken to limit harvest of nearshore stocks.

Adding to these already difficult conversations is the underlying tension associated with basing these data moderate assessments on catch history. Washington recreational stakeholders believe that, as a result of these assessments, they may be unfairly paying the price for WDFW's management actions to close commercial fisheries while other areas may be "rewarded" for harvesting more fish.

Recommendation

We think that data moderate assessments may be applicable for areas, such as the slope, which are managed under regulations that apply to a broader area; however, their use in informing

management decisions for the nearshore rockfish fishery that has vastly different regulations among the states may be limited.

In general, we believe that there are likely more discrete subpopulations of nearshore rockfish stocks distributed along the West Coast than the data can demonstrate. However, we also believe that these data moderate assessments for minor nearshore rockfish do not accurately reflect their status off Washington as the estimates of biomass are likely more reflective of fishing regulations, rather than abundance.

We understand the process and timing constraints associated with finalizing the harvest specifications and management measures to facilitate a January 1, 2015, implementation date. Therefore, for the purposes of moving forward with the 2015-2016 management process, WDFW recommends Alternative 1, Sub-option B, to set a Washington harvest guideline of 15 mt for the minor nearshore rockfish complex north of 40°10' N. latitude for 2015 and 2016, as a short-term measure until we can complete full assessments for these stocks. We believe that keeping management at the complex level for minor nearshore rockfish off Washington for a few years represents relatively low risk from a conservation perspective.

Given where we are in the process and the options available, WDFW believes that Alternative 1, Sub-option B represents a "fair and equitable" sharing of minor nearshore rockfish; however, if NMFS' guidance is to manage at the component stock level, then WDFW would recommend component stock limits consistent with Alternative 3, Sub-option B, as described in Table 6. As mentioned previously, we have begun a nearshore hook-and-line survey this year, which we hope will provide data for full assessments for minor nearshore rockfish off Washington in the future.