

Gear and sector specific MRAs for skates in the Gulf of Alaska

Discussion paper

1/13/17¹

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1 Introduction

On December 28, 2015, NMFS published a final rule issuing regulations to reduce the maximum retainable amount (MRA) of skates using groundfish and halibut as basis species in the Gulf of Alaska (GOA) from 20 percent to 5 percent to prevent the catch of skates from exceeding the Allowable Biological Catch (ABC). These regulations were implemented on January 27, 2016. A detailed review of the management of GOA skates, the affected fisheries, the rationale for the regulations, and the proposed regulations were provided in the EA/RIR/IRFA (NPFMC, 2014), and proposed rule (80 FR 39734, July 10, 2015).

At the April 2016 North Pacific Fishery Management Council (Council) meeting, an individual claimed that they encountered and retained skates in the GOA at a rate that exceeded the 5% MRA, and was fined as a result. The individual claimed that the recent regulatory change in MRA rates does not reflect the intrinsic rate for the longline fishery and, therefore, resulted in unnecessary regulatory discards.

The Council directed staff to prepare a discussion paper to evaluate gear specific MRAs for gear types and sectors for GOA skates. This discussion paper examines the intrinsic rate of skate bycatch in GOA fisheries, encounter rates for skates in 2014-2016, and examines the logistics of gear and sector specific MRAs in the GOA.

2 Background

The amounts of skates available to the commercial fisheries in the GOA are limited by relatively small ABCs and Total Allowable Catch (TACs) that are fully needed to support incidental catch needs in other fisheries. The directed fishery for skates is typically closed at the beginning of the fishing year and skate incidental catch is limited by an aggregate skate MRA. Action by the Council in 2014 limited the combined amounts of big, longnose, and “other species” of skates closed to directed fishing to 5 percent of retained other species that are open to directed fishing. Before 2016, the MRA for skates in GOA fisheries was 20 percent. The 20 percent MRA allowed industry to top off on skates while fishing for

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groundfish, and the estimated catch of big skates exceeded the ABC in the Central GOA in 2010, 2011, 2012, 2013, 2014, and 2015 and the estimated catch of longnose skates exceeded the ABC in the Western GOA in 2009, 2010, and 2013. The purpose of the regulatory change was to prevent catch of skates from exceeding the ABC by slowing the harvest rates of skates by reducing the MRA for skates to a level that more closely approximates the intrinsic rate of skate incidental catch in the GOA. The analysis considered alternatives to reduce the MRA in GOA fisheries to 5%, 10%, 15%, or the status quo of 20%. Analysis indicated that only a 5% MRA would affect catch rates sufficiently to bring estimated catches below the ABC.

To prevent the catch of skates from exceeding the ABC, the MRA was reduced to a level that approximates the intrinsic incidental catch rate for skates. The intrinsic rate is the rate that would occur if there were no market for skates, or if skate retention were prohibited by regulation. In these circumstances, there is no value to be obtained from catching skates and incurring the costs of minimal preparation on board, icing, and lost space in the hold. It should be noted that the intrinsic rate may not be the same as the encounter rate that occurs when there is a market for skates, regardless of the MRA, or when skate retention is not prohibited. When retention is not prohibited, there remains a market for skates, and therefore an incentive to catch and retain skates.

Big skate retention was prohibited in the Central GOA on May 8 in 2013, February 4 in 2014, February 11 in 2015, and September 29 in 2016. Apart from 2016, when the hook-and-line (HAL) catcher vessel Pacific cod fishery was closed early in the year due to halibut PSC, these prohibitions provide an opportunity to observe the intrinsic catch rate of big skates. Because skate retention has not been prohibited in other areas, or for other species, these years provide the only opportunities to calculate the intrinsic rate of skate catch. The intrinsic rate of skate catch is not a constant, it will vary from year to year as the biomass of skates and target species vary, and likely varies by gear type. However, without additional data, the intrinsic rates estimated from the Central GOA for big skates in 2013, 2014, and 2015 remain the best available data.

Table 1 shows, for the years 2012 through mid-2014, the big skate catch (retained and discarded) as a percentage of groundfish catches (retained and discarded) and includes skates in the Central GOA before and after the dates of closures that occurred on May 8 in 2013 and February 4 in 2014. Highlighted cells indicate periods when big skate were placed on “prohibited retention” status. Data are provided for hook-and-line gear targeting Pacific cod, hook-and-line gear targeting IFQ species, non-pelagic trawl gear targeting deep-water flatfish (including arrowtooth flounder), and non-pelagic gear targeting shallow-water flatfish.

When big skate retention was not prohibited, the catch rate varied from 2.8 percent to 7.0 percent for hook-and-line Pacific cod fishing. When big skate retention was prohibited, catch rates were 3.0 percent in 2013 and 5.9 percent in 2014. For IFQ fishing, the rates ranged between 1.5 percent and 6.3 percent during the years and periods when skate retention was prohibited. Rates appear to have increased between 2012 and 2013, and again between 2013 and 2014, possibly associated better data collection due to the restructuring of the observer program that became effective in 2013, allowing for more observers on hook-and-line catcher vessels and observers on the halibut Individual Fishing Quota (IFQ) fleet.

Data summarized in Table 1 suggest that the intrinsic rate for big skates in the non-pelagic trawl fisheries for arrowtooth flounder and deep-water flatfish is close to zero. When big skate retention was not prohibited, the retention rate varied from 0.5 to 8.0 percent. When retention was prohibited in 2013 and 2014, the catch rate dropped to less than 1 percent. For shallow-water flatfish, when retention was not prohibited, the retention rate varied from 2.2 to 7.0 percent. When retention was prohibited, the catch rate was between zero and 3 percent.

Although these data only show the retention rates for big skates in the Central GOA, these are the only data that exist to allow a calculation of intrinsic rate of skate catch for any gear types or sectors in the GOA. The original analysis in 2014 noted that a lower MRA would differentially affect two different

classes of fishermen. Those who previously caught skates at a rate higher than the new MRA of 5% would be “newly bound” by new regulations, those who previously caught skates at a rate lower than the new MRA would be considered “unbound”. The analysis recognized that some vessels would have to alter established fishing practices to avoid areas where skate encounter rates were known to be higher than the intrinsic rate, or risk exceeding the new MRA and the associated fines that could result. The analysis stated that several years of data may be necessary to understand the effect of the regulatory change on fishing behavior.

Table 1 **Estimated rate of big skate catch (retained and discarded) in relation to groundfish catch (retained and discarded) before and after (shaded cells) Prohibited Retention closures**

	Before Feb 5	Feb 5 to May 8	May 8 to August 3	August 3 to December 31
<i>Hook-and-line cod</i>				
2012	3.3%	3.1%	No catch	7.0%
2013	5.7%	2.8%	No catch	3.0%
2014	6.9%	5.9%	No Catch	NA
<i>Hook-and-line IFQ</i>				
2012	No Catch	0.5%	0.4%	1.4%
2013	No Catch	1.1%	1.5%	6.3%
2014	No Catch	2.6%	3.3%	NA
<i>Non-Pelagic Trawl Arrowtooth flounder and deep-water flatfish</i>				
2012	10.3%	8.0%	0.5%	3.5%
2013	8.6%	7.9%	0.8%	0.5%
2014	4.8%	0.0%	0.1%	NA
<i>Non-Pelagic Trawl Shallow-water flatfish</i>				
2012	0.0%	5.2%	6.19%	7.0%
2013	0.4%	2.2%	0.9%	3.0%
2014	0.0%	0.0%	0.2%	NA

Source: NMFS catch accounting system.

Note: August 3 was chosen as the closing date for one of the periods, since 2014 data end on that date. Use of the same closing date across years facilitates comparison. These rates are not comparable to MRA rates, since they include discards and skates are included into total groundfish.

Table 2 shows, for catcher vessels in 2014, 2015, and 2016, the estimated rate of catch (retained and discarded) for all skates by gear type in the Central, Western, and Eastern GOA before and after skate PSC closures, in relation to the total groundfish and halibut catch. The request from the Council included a breakdown by sector, but data confidentiality issues preclude showing those data. Big skates were placed on prohibited retention status in the Central GOA on February 5 in 2014, and February 11 in 2015. Longnose skates were placed on prohibited retention status in the Western GOA on April 26, and big skates were placed on prohibited retention status in the Central GOA on September 29 in 2016. Data from 2016 are confounded because the rule implementing the 5% MRA did not go into effect until January 27, 2016, so some fishing occurred with a 20% MRA, and the longline Pacific cod fishery was closed for the B season because of halibut PSC closure. Each of these may have affected the rate and overall catch of skates.

The high rates of skate catch in the Central GOA hook-and-line fishery before skate PSC closures suggest that topping off was occurring in this fishery, particularly in 2016 when the MRA was still 20% before January 27. Ex-vessel values for skates from 2014 to 2016 were around 44 cents per pound, while Pacific cod ex-vessel values were around 33 to 36 cents per pound (AkFin, January 10 2017). For some vessels, the opportunity to top off on skates may provide a substantial increase in revenue, and there is clearly an incentive for vessels to top off on skates. After skate PSC closures, the catch rates dropped to well below the 20% MRA in 2014 and 2015, and below the 5% MRA in 2016, suggesting that the intrinsic rate calculated for big skates in 2014 (NPFMC 2014) may be applicable to all skates. NPFMC (2014) anticipated that it could take several years before operators that had previously targeted and retained skates could adjust fishing practices to comply with the 5% MRA.

Table 2 also shows a distinct difference between hook-and-line, trawl, and other gears in rates of skate bycatch. These data may suggest that gear types interact with skates differently, although additional years of data are necessary to understand those interactions.

Table 2 Estimated rate of Catcher Vessel skate catch (all species, retained and discarded) by gear type in relation to groundfish and halibut catch (retained and discarded) before and after a skate PSC Closure in 2014, 2015, and 2016

	<i>Hook-and-line</i>		<i>Pot and Jig</i>		<i>Trawl</i>	
	Pre-closure	Post-closure	Pre-closure	Post-closure	Pre-closure	Post-closure
Central GOA						
2014	18%	9%	<1%	<1%	7%	<1%
2015	15%	8%	<1%	<1%	4%	<1%
2016*	12%	3%	**	<1%	1%	<1%
Western GOA						
2014	5%	na	**	na	<1%	na
2015	6%	na	<1%	na	<1%	na
2016*	11%	5%	<1%	<1%	<1%	<1%
Eastern GOA						
2014	6%	na	<1%	na	0%	**
2015	5%	na	na	na	na	0%
2016*	6%	na	na	na	na	**

Source: NMFS catch accounting system

na indicates data not available

* skates did not go to prohibited retention status in 2016 until September

** indicates confidential data

3 Gear Specific Maximum Retainable Amounts

3.1 Previous action on MRAs

As described previously, regulations implemented in January 2016 reduced the MRA for skates in the GOA from 20 percent to 5 percent in order to reduce the likelihood that catch of skates would exceed the ABC. The supporting analysis (NPMFC 2014) considered reducing the MRA to 15 percent, 10 percent, 5 percent, and the status quo alternative, 20 percent. The analysis concluded that only the 5 percent alternative would affect catch enough to ensure that the catch of skates in the GOA was unlikely to exceed the ABC. Because the longline Pacific cod fishery was closed early in 2016, the full impact of this regulatory change is not known. However, in 2016 both big skates and longnose skates were placed on

prohibited retention status because of high bycatch rates despite the lower, 5% MRA for part of the year. Several years of data may be necessary to understand the effect of the regulatory change on fishing behavior and the catch rate for skates.

In 2015 the council also considered potential action to change the MRA enforcement period for all fisheries in the Bering Sea and Aleutian Islands (BSAI) and GOA. The stated intention of the proposed action was to increase efficiency and reduce regulatory discards by calculating retention of MRA species at the time of offload. Maximum retainable amounts are enforced instantaneously; it is unlawful for a vessel to retain species on MRA status that exceed the MRA percentage at any time during a fishing trip. A change in regulation would allow vessels to retain species that are closed to directed fishing in excess of the instantaneous MRA, provided that the amount retained at the time of offload is at or below the MRA percentage with respect to the basis species retained. The Council noted that the complexity of changing the enforcement period for all MRA species in the North Pacific make a single regulatory change difficult, and preferred instead to consider MRA enforcement periods on a species by species basis. The Council, therefore, took no action in 2015.

3.2 Regulatory concerns

The MRA amount is calculated as a percentage of the species closed to directed fishing (in this case, skates) relative to the amount of other species retained onboard the vessels that are open for directed fishing (basis species). Table 10 to 50 CFR part 679 provides GOA MRA percentages for groundfish species or species groups that are closed to directed fishing. A regulatory change to allow gear specific MRAs would require a regulatory amendment to create additional tables for each gear type. The State of Alaska establishes their own regulations for state waters fisheries. Typically, State and Federal regulations match for parallel fisheries. The State would follow their own process to revise regulations to match gear-specific MRAs, if the Council chooses to amend regulations.

3.3 Enforcement

Enforcement of MRA limits currently takes place after offload, via reports from processors. No enforcement activities occur while vessels are at sea. Comment from NOAA Enforcement (Personal communication) indicated that gear and sector specific MRAs would complicate MRA regulations, but because reports are provided after offload, they would not create additional enforcement concerns.

3.4 In-season management

Concern over the frequency with which skate catch in the GOA was exceeding the ABC prompted the action implemented in 2016 to reduce the MRA for skates in the GOA to 5%. Previous analysis (NPFMC 2014) considered MRAs for all skates from 20% (status quo) to 5%, and concluded that only a 5% MRA would reduce catch sufficiently to ensure that the catch of skates was not likely to exceed the ABC. It is in-season management's belief that increasing the skate MRA in the GOA above 5% will increase the total amount of skate harvest, resulting in skate species being placed on prohibited species catch status earlier in the year. Skate TACs continue to be exceeded, although later in the year, even with the reduced MRA. Raising the MRA will likely result in additional management concerns on species that already present management challenges.

Increasing the MRA will increase retention by those vessels that retain skates. It will incentivize top-off behavior that occurs by some vessels, resulting in more harvest of skates by those vessels, and the amount of skates weighed at the dock. This increase will not be offset by a reduction in the fleet wide at-sea discard rate. The at-sea discard rate of skates is unlikely to change with increased retention because the majority of hook-and-line vessels do not retain any skates (Table 3), and those vessels drive the at-sea discard rate more than the vessels that retain skates. Therefore, increased retention and delivery of skates will increase the total amount of skate harvest, likely resulting in skates being placed on prohibited retention status earlier in the year.

Table 3 Number of trips (top) and unique catcher vessels (bottom) with skates caught (retained and discarded) and number and percentage of trips and vessels with skates retained in the Gulf of Alaska while all skate species were open to retention in 2014 – 2016.

	<i>Hook-and-line</i>			<i>Trawl</i>		
	Trips with Skates	Trips with skates retained	% of trips with skates retained	Trips with Skates	Trips with skates retained	% of trips with skates retained
2014	1,984	212	11%	474	211	45%
2015	2,068	246	12%	505	229	45%
2016	2,853	402	14%	1,224	660	54%

	<i>Hook-and-line</i>			<i>Trawl</i>		
	Vessels with skates	Vessels with skates retained	% of vessels with skates retained	Vessels with skates	Vessels with skates retained	% of vessels with skates retained
2014	454	56	12%	56	47	84%
2015	422	64	15%	55	45	82%
2016	524	87	17%	70	57	81%

Source: NMFS catch accounting system

4 Conclusions

The Council requested this discussion paper to examine gear specific MRAs for gear types and sectors for skates in the GOA that more accurately reflects the intrinsic rate of incidental catch of all skates in the GOA. The intrinsic rate of catch is the rate that would occur if there were no market for skates, or if skate retention were prohibited by regulation. The best available data indicate that the intrinsic rate for big skate catch in the GOA ranges from near 0% to approximately 6% for non-pelagic trawl and hook-and-line fisheries (Table 1). The intrinsic rate for all skates also appears to be at or below 5% (Table 2), although the effects of the lower MRA implemented in 2016 are not yet known. The action taken in by the Council in 2014 (implemented in 2016) was designed to reduce the likelihood that catch of skates in the GOA would exceed the ABC, resulting in skates being placed on prohibited retention status. NPFMC (2014) analyzed MRAs from 20% to 5%, and concluded that only the 5% MRA would sufficiently reduce skate catch to ensure that the ABC was unlikely to be exceeded. It remains NMFS in-season management's opinion that the intrinsic rate of skate catch in the GOA is near 5%, and increasing the skate MRA in the GOA above 5% will increase the total amount of skate harvest, resulting in skate species being placed on prohibited retention status earlier in the year.

5 References

NPFMC 2014. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for a Proposed Regulatory Amendment for the Groundfish Fishery of the Gulf of Alaska Revising Skate Maximum Retainable Amounts in the Gulf of Alaska Groundfish Fishery.