

**Discussion Paper to to Change MRA
For Non-AFA CP Fleet**

National Marine Fisheries Service Alaska Region
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Potential Changes to the Maximum Retainable Amount (MRA) for the non-American Fisheries Act (AFA) trawl catcher/processor (CP) fleet. Discussion paper for the December 2005 North Pacific Fishery Management Council meeting

A group of eight companies with non-AFA trawl CP vessels participating in trawl fisheries in the BSAI and GOA groundfish fisheries proposed a regulatory change in the calculation of MRAs for incidentally caught species. The October 3, 2005 proposal states: "Change the enforcement period for Maximum Retainable Allowances (sic) from instantaneous during a regulatory week to an offload basis." This proposal was subsequently modified on October 10 to read: "Change the enforcement period for Minimum Retention (sic) Allowance from instantaneous during a regulatory week to an offload basis or to a change in the status of any fish retained on board due to either (1) an inseason management measure or (2) the vessel's movement to a different regulatory area."

The stated need for action focuses on reduction of regulatory discards. The proposal would reduce discards by: (1) calculating the MRA at the end of the fishing trip rather than at any time during the trip; and (2) eliminating two conditions that determine the length of the fishing trip.

Current status of the regulations

MRAs are the tool NMFS uses to regulate catch of species closed to directed fishing. The MRA tables are a matrix of proportions. They represent a range of rates of the expected or acceptable incidental catch of species closed to directed fishing relative to target species. The MRA as a management tool relies on the ability of the vessel operator to selectively catch the target species. The target species is called a basis species in regulation. The species closed to directed fishing is the incidental species. Depending on the rate chosen, the MRA provides two basic purposes described under 'Current Functions of MRAs' below.

NMFS prohibits directed fishing for a species in order to: avoid over harvest of a total allowable catch (TAC) category; reduce or eliminate bycatch of prohibited species; (e.g. salmon, crab, halibut limits or groundfish on prohibited status); to implement sector TAC apportionments. An example of a sector TAC apportionment closure is the prohibition of directed fishing for pollock in the Bering Sea to vessels not qualified under the AFA or vessels not fishing under a Community Development Plan.

When NMFS prohibits directed fishing, retention is allowed up to an amount calculated with the MRA rate. The MRA tables show rates used to calculate retainable proportions of incidental species relative to species open to directed fishing. Vessel operators calculate the MRA through three basic steps. They identify and calculate the round weight of the basis (or target) species,

identify the appropriate rate from the MRA table, and multiply that rate against the round weight of the basis species. The calculated maximum amount is the retention limit. The vessel must discard catch in excess of that amount to avoid a violation of regulation. The vessel operator calculates the MRA at any time for the duration of the fishing trip. The proposal calls this condition the 'instantaneous' enforcement period for a trip. The regulation assumes the MRA rate is appropriate at least for incidental catch.

A fishing trip begins with harvesting fish. By regulation several conditions end a trip (which ever occurs first): 1) NMFS prohibits directed fishing, 2) the vessel offloads, 3) the vessel moves into an area where a directed fishing closure already exists, 4) the vessel switches gear or 5) the end of a weekly reporting period. A trip defines the period during which a vessel operator calculates the amount of incidental species retained relative to the basis species.

The regulations grant vessels not listed under the AFA management measures special exceptions from the pollock MRA regulations. The AFA closed directed fishing for pollock by these vessels.¹ The 'instantaneous' restriction does not apply. An offload is the only fishing trip definition applicable. They retain pollock at any rate during a fishing trip. At the end of the trip they must meet the MRA proportion.

Current function of MRAs

The MRA rate regulates the retention of incidental species catch in other groundfish target fisheries. Ideally MRA restrictions provide appropriate incentives to slow the catch of a species so that catch equals the TAC by the end of the year. Beyond management of a TAC to obtain optimum yield, MRA calculations perform two additional functions. MRAs limit retention to a species expected incidental catch rate. Alternately the MRA functions as a trip limit. This function allows for catch and retention higher than expected incidental catch rates.

For several incidental/basis species combinations, the low MRA rates reduce indirect targeting ('topping off'). In these cases, the MRAs represent the expected catch of an incidental species absent deliberate action by the vessel operator to maximize that incidental catch and retention amounts. The requirement to meet the MRA rate at any time during a trip limits the vessel operators' ability to maximize catch retention. This restriction is used to limit total catch of species low in TAC amount (relative to the species caught in the directed fisheries), at greater risk of being caught in excess of the OFL, and high in monetary value. For example some rockfish meet these criteria.

Regulations establish a relatively higher MRA for other species. For example the generous rate for Greenland turbot as an incidental specie relative to flathead sole as a basis specie reflects management goals. Experience demonstrated the directed trawl Greenland turbot fishery incurred high halibut bycatch rates. In response, managers closed the directed fishery and increased the MRA relative to flathead sole. The higher MRA allows for increased indirect targeting on Greenland turbot and slows the bycatch of halibut. In contrast to the previous example, these regulations encourage 'topping off'. The MRA functions as a management tool allowing catch of Greenland turbot and more moderate halibut bycatch.

¹ The exception to this prohibition is fishing for pollock under the Western Alaska Community Development Program.

For several species where restricting catch to an incidental rate or indirect targeting are not a consideration, regulations establish the MRA rate as twenty percent.

Analysis of the proposal

The proposal affects the length of a fishing trip and delays the calculation of the MRA to the end of a fishing trip. Three rather than five conditions define the end of a fishing trip. The proposed remaining conditions are; 1) vessel offloads, 2) NMFS prohibits directed fishing, and 3) vessel movement to an area where a different directed fishing closure applies. The two eliminated conditions are: the vessel switches gear and a weekly reporting period end.

For the fleet that proposed this action, eliminating gear switching has little impact on trip status. Trawl catcher processors rarely switch gear within the trawl category (between non-pelagic and pelagic gear) and do not switch between trawl, hook-and-line, pot, or jig gear.

Elimination of the weekly reporting period as a trip condition allows for an increased amount of retained incidental species. Typically vessels offload every 20 to 25 days. Absent any other trip ending events, a trip increases from a maximum of 7 to as much as 25 days. Especially in combination with elimination of the 'instantaneous' calculation requirement, increased trip time allows vessels more opportunity to encounter incidental species and accumulate basis species. NMFS and the Council created the weekly reporting period trip limit to deliberately reduce the opportunity to indirectly target incidental species.

The pollock exception allows a trip to be defined solely by an offload. As an allocation measure under the AFA, NMFS closed pollock to directed fishing for all vessels except those authorized under the AFA and the Community Development Quota (CDQ) program. The two additional trip conditions are not relevant because pollock is closed to directed fishing the entire year. However these two conditions are relevant for all other species. The two conditions are directed fishing prohibitions and vessel movement into an area with an existing directed fishing closure. When either condition is invoked trip length is reduced relative to the offload definition.

The proposal contends that when the MRA calculation is required throughout the trip, ('instantaneously') then incidental catch is discarded in excess of the MRA calculation. Increased retention is allowed when the calculation is performed at the end of the trip. Incidental species discarded early in the trip under current regulation are retained with basis species caught by the end of the trip. The vessel operators gain greater flexibility, especially in retaining incidental species caught early in the fishing trip.

Conversely, with that advantage vessel operators gain the option to deliberately 'front load' species closed to directed fishing. Early retention ensures a maximum amount of incidental species caught for each trip. Front loading assumes enough basis species are caught by the trip end date otherwise, incidental species are discarded.

The current regulation limits the amount of indirect targeting of highly valued incidental species. The proportions that constitute many MRA rates were designed to reflect the upper end of expected incidental catch rates.

The proposal acknowledges a change in status (opened or prohibited to directed fishing) for species retained on the vessel generates a new trip for the vessel. If the vessel is not retaining a species and its status changes a new trip is not initiated for that vessel.

Effects of the proposal on the MRA function that limits retention to the expected incidental catch

As a limitation on the retention of incidental species, the MRA deteriorates when its calculation occurs at the end of the trip. It likewise deteriorates with elimination of the weekly reporting period as a trip end condition. The vessel operator's economic incentive maximizes the value of each trip. The proposal provides the opportunity to indirectly target higher valued incidental species (e.g. shortraker rockfish) early in the trip rather than accumulating them in an incidental manner. Intentional indirect targeting behavior will increase the overall catch of species that have limited groundfish fisheries through overfishing closures in the past. While the proposal could simplify accounting and reduce regulatory discards, if an economic incentive exists to do so, the relaxed accounting regulations encourage greater catch of incidental species that require protection.

In 2005 NMFS prohibited directed fishing for Bering Sea rockfish for the entire year. Catch for most rockfish species was moderate relative to the TAC. Catch did not approach overfishing. However, the status of stocks change each year, sometimes dramatically. The harvest specification trend is to create more categories of small TACs, often with low OFLs. If the acceptable biological catch (ABC) of incidental species decrease, and basis species increase, the incidental species catch will not tolerate indirect targeting without approaching the OFL. The thrust of rockfish management is to disassociate species complexes into their constituent species. A greater number of species categories with smaller ABCs and OFLs increase the potential of the catch of a species reaching the OFL.

Historically, indirect targeting of rockfish species has driven catch levels high enough to approach OFLs. Fisheries have been closed and revenues foregone to prevent overfishing. In the BSAI, shortraker rockfish are incidentally caught in several directed fisheries. Those fisheries include: AFA pollock; IFQ sablefish & halibut; CDQ sablefish and halibut; non pelagic trawl Pacific cod; Atka mackerel; Pacific ocean perch; arrowtooth; hook-and-line Pacific cod and Greenland turbot; and pot sablefish. An action to prevent overfishing of shortraker rockfish considers curtailment or closing of some or all of these fisheries.

Effects of the proposal on the MRA function as a trip limit

Relaxation of the MRA accounting process is likely to increase retention rates for all species. The proposal allows trawl catcher/processors maximum incidental catch retention and retention of species for which NMFS created deliberate 'top off' fisheries (e.g. Greenland turbot in the flathead sole target). The proposal can provide tools for reducing regulatory discards.

The non-AFA trawl catcher/processors are expected to form co-ops in the relatively near future. Once they do, the 'race for fish' is expected to be greatly reduced. A reduction of the competitive environment provides the affected vessels the opportunity to increase catch of species that are not allocated consistent with sideboard restrictions and co-op agreements. The non-AFA trawl catcher/processors are likely to have sideboards for the non-allocated groundfish. Because sideboards are not a 'hard cap' (a sideboard only determines whether a TAC category is open to directed fishing or not) individual vessels will be able to indirectly target sideboarded species. For example, yellowfin sole is a proposed allocated species under Amendment 80. Under this proposal, vessels will be able to maximize the incidental catch of Pacific cod relative to yellowfin sole, perhaps in excess of sideboard limits, if sideboards continue to be managed as 'soft caps'. Indirect targeting allows vessel operators to increase Pacific cod catch without technically participating in the directed Pacific cod fishery.

Conclusion

The proposed changes to MRA calculations will allow the requesting fleet to retain more incidental catch and decrease discards of species closed to directed fishing. The proposal will remove a limitation on the ability to indirectly target species that are valuable and are vulnerable to overfishing. The tension in this proposal resides between the two functions of the MRA.

The MRA serves to limit catch of some species to a level low enough so that the groundfish fishery has been able to generally avoid overfishing issues. When overfishing became an issue, fisheries were closed before TAC was harvested. To avoid approaching overfishing, MRA ratios were reduced for some species and trips were limited to no more than a week.

Allowing a more generous definition of a trip and adjusting the MRA calculation provide tools to reduce discards, an important focus of NMFS through Amendments 79 and 80.

Several questions can be asked in response to the proposal

1. Can the development of co-ops through Amendment 80 address some of the current regulatory discard issues?
2. Will sideboards remain 'soft caps'? To limit the potential for topping off on species vulnerable to overfishing should they be "hard"? (i.e. When a sideboard limit is caught, will NMFS prohibit continued fishing that takes that specie, even incidentally.)
3. If sideboards remain 'soft caps' does the creation of co-ops increase the potential for vessels to top off on the low volume, high value species that are particularly vulnerable to overfishing?
4. How should the incidental catch of specie like shortraker rockfish that is common to so many fisheries (many are highly valuable CDQ, individual quota, or co-op fisheries) regulated so that the potential of overfishing closures are minimized to the extent possible?

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Table 10 to Part 679--Gulf of Alaska Retainable Percentages

BASIS SPECIES		INCIDENTAL CATCH SPECIES (for DSR caught on catcher vessels in the SEO, see § 679.20 (j) ⁶)														
Code	Species	Pollock	Pacific cod	DW flat ⁽²⁾	Rex sole	Flathead sole	SW Flat ⁽³⁾	Arrowtooth	Sablefish	Aggregated rockfish ⁽⁸⁾	SR/RE ERA ⁽¹⁾	DSR SEO (C/Ps only) ⁽⁶⁾	Atka mackerel	Aggregated forage fish ⁽¹⁰⁾	Skates ⁽¹¹⁾	Other species ⁽⁷⁾
110	Pacific cod	20	na ⁹	20	20	20	20	35	1	5	(1)	10	20	2	20	20
121	Arrowtooth	5	5	0	0	0	0	na ⁹	0	0	0	0	0	2	0	0
122	Flathead sole	20	20	20	20	na ⁹	20	35	7	15	7	1	20	2	20	20
125	Rex sole	20	20	20	na ⁹	20	20	35	7	15	7	1	20	2	20	20
136	Northern rockfish	20	20	20	20	20	20	35	7	15	7	1	20	2	20	20
141	Pacific ocean perch	20	20	20	20	20	20	35	7	15	7	1	20	2	20	20
143	Thornyhead	20	20	20	20	20	20	35	7	15	7	1	20	2	20	20
152/ 151	Shortraker/ rougheye ⁽¹⁾	20	20	20	20	20	20	35	7	15	na ⁹	1	20	2	20	20
193	Atka mackerel	20	20	20	20	20	20	35	1	5	(1)	10	na ⁹	2	20	20
270	Pollock	na ⁹	20	20	20	20	20	35	1	5	(1)	10	20	2	20	20
710	Sablefish	20	20	20	20	20	20	35		15	7	1	20	2	20	20
Flatfish, deep water ⁽²⁾		20	20	na ⁹	20	20	20	35	7	15	7	1	20	2	20	20
Flatfish, shallow water ⁽³⁾		20	20	20	20	20	na ⁹	35	1	5	(1)	10	20	2	20	20
Rockfish, other ⁽⁴⁾		20	20	20	20	20	20	35	7	15	7	1	20	2	20	20
Rockfish, pelagic ⁽⁵⁾		20	20	20	20	20	20	35	7	15	7	1	20	2	20	20
Rockfish, DSR-SEO ⁽⁶⁾		20	20	20	20	20	20	35	7	15	7	na ⁹	20	2	20	20
Skates ⁽¹¹⁾		20	20	20	20	20	20	35	1	5	(1)	10	20	2	na ⁹	20
Other species ⁽⁷⁾		20	20	20	20	20	20	35	1	5	(1)	10	20	2	20	na ⁹
Aggregated amount of non-groundfish species		20	20	20	20	20	20	35	1	5	(1)	10	20	2	20	20

Notes to Table 10 to Part 679					
1	Shortraker/rougheye rockfish				
		SR/RE	shortraker/rougheye rockfish (171)		
			shortraker rockfish (152)		
			rougheye rockfish (151)		
	SR/RE ERA	shortraker/rougheye rockfish in the Eastern Regulatory Area.			
Where numerical percentage is not indicated, the retainable percentage of SR/RE is included under Aggregated Rockfish					
2	Deep-water flatfish	Dover sole, Greenland turbot, and deep-sea sole			
3	Shallow water flatfish	Flatfish not including deep water flatfish, flathead sole, rex sole, or arrowtooth flounder			
4	Other rockfish	Western Regulatory Area	means slope rockfish and demersal shelf rockfish		
		Central Regulatory Area			
		West Yakutat District			
		Southeast Outside District			means slope rockfish
	Slope rockfish				
		<i>S. aurora</i> (aurora)	<i>S. variegatus</i> (harlequin)	<i>S. brevispinis</i> (silvergrey)	
		<i>S. melanostomus</i> (blackgill)	<i>S. wilsoni</i> (pygmy)	<i>S. diploproa</i> (splitnose)	
		<i>S. paucispinis</i> (bocaccio)	<i>S. babcocki</i> (redbanded)	<i>S. saxicola</i> (stripetail)	
		<i>S. goodei</i> (chilipepper)	<i>S. proriger</i> (redstripe)	<i>S. miniatus</i> (vermillion)	
		<i>S. crameri</i> (darkblotch)	<i>S. zacentrus</i> (sharpchin)	<i>S. reedi</i> (yellowmouth)	
	<i>S. elongatus</i> (greenstriped)	<i>S. jordani</i> (shortbelly)			
In the Eastern GOA only, Slope rockfish also includes <i>S. polyspinous</i> . (Northern)					
5	Pelagic shelf rockfish	<i>S. ciliatus</i> (dusky)	<i>S. entomelas</i> (widow)	<i>S. flavidus</i> (yellowtail)	
6	Demersal shelf rockfish (DSR)	<i>S. pinniger</i> (canary)	<i>S. maliger</i> (quillback)	<i>S. ruberrimus</i> (yelloweye)	
		<i>S. nebulosus</i> (china)	<i>S. helvomaculatus</i> (rosethorn)		
		<i>S. caurinus</i> (copper)	<i>S. nigrocinctus</i> (tiger)		
		DSR-SEO = Demersal shelf rockfish in the Southeast Outside District The operator of a catcher vessel that is required to have a Federal fisheries permit, or that harvests IFQ halibut with hook and line or jig gear, must retain and land all DSR that is caught while fishing for groundfish or IFQ halibut in the SEO. Limits on sale and requirements for disposal of DSR are set out at § 679.20 (j).			
7	Other species	sculpins	octopus	sharks	Squid
8	Aggregated rockfish	Means rockfish of the genera <i>Sebastes</i> and <i>Sebastobus</i> defined at § 679.2 except in:			
		Southeast Outside District (SEO)	where DSR is a separate category for those species marked with a numerical percentage		
		Eastern Regulatory Area (ERA)	where SR/RE is a separate category for those species marked with a numerical percentage		

Table 10 to part 679
Updated December 23, 2004

Notes to Table 10 to Part 679		
9	N/A	not applicable
10	Aggregated forage fish (all species of the following families)	
	Bristlemouths, lightfishes, and anglemouths (family <i>Gonostomatidae</i>)	209
	Capelin smelt (family <i>Osmeridae</i>)	516
	Deep-sea smelts (family <i>Bathylagidae</i>)	773
	Eulachon smelt (family <i>Osmeridae</i>)	511
	Gunnels (family <i>Pholidae</i>)	207
	Krill (order <i>Euphausiacea</i>)	800
	Laternfishes (family <i>Myctophidae</i>)	772
	Pacific herring (family <i>Clupeidae</i>)	235
	Pacific Sand fish (family <i>Trichodontidae</i>)	206
	Pacific Sand lance (family <i>Ammodytidae</i>)	774
	Pricklebacks, war-bonnets, eelblennys, cockscombs and Shannys (family <i>Stichaeidae</i>)	208
	Surf smelt (family <i>Osmeridae</i>)	515
11	Skates Species and Groups	
	Big Skates	702
	Longnose Skates	701
	Other Skates	700

Table 11 to Part 679–BSAI Retainable Percentages (*Updated 10/18/02*)

BASIS SPECIES		INCIDENTAL CATCH SPECIES ⁵															
		Pollock	Pacific cod	Atka mackerel	Alaska plaice	Arrow-tooth	Yellow fin sole	Other flatfish ²	Rock sole	Flathead sole	Green-land turbot	Sable-fish ¹	Short-raker/rougheye	Aggregated rockfish ⁶	Squid	Aggregated forage fish ⁷	Other species ⁴
110	Pacific cod	20	na ⁵	20	20	35	20	20	20	20	1	1	2	5	20	2	20
121	Arrow-tooth	0	0	0	0	na ⁵	0	0	0	0	0	0	0	0	0	2	0
122	Flathead sole	20	20	20	35	35	35	35	35	na5	35	15	7	15	20	2	20
123	Rock sole	20	20	20	35	35	35	35	na ⁵	35	1	1	2	15	20	2	20
127	Yellowfin sole	20	20	20	35	35	na ⁵	35	35	35	1	1	2	5	20	2	20
133	Alaska Plaice	20	20	20	na ⁵	35	35	35	35	35	1	1	2	5	20	2	20
134	Greenland turbot	20	20	20	20	35	20	20	20	20	na ⁵	15	7	15	20	2	20
136	Northern	20	20	20	20	35	20	20	20	20	35	15	7	15	20	2	20
141	Pacific Ocean perch	20	20	20	20	35	20	20	20	20	35	15	7	15	20	2	20
152/ 151	Shortraker/ Rougheye	20	20	20	20	35	20	20	20	20	35	15	na ⁵	5	20	2	20
193	Atka mackerel	20	20	na ⁵	20	35	20	20	20	20	1	1	2	5	20	2	20
270	Pollock	na ⁵	20	20	20	35	20	20	20	20	1	1	2	5	20	2	20
710	Sablefish1	20	20	20	20	35	20	20	20	20	35	na ⁵	7	15	20	2	20
875	Squid	20	20	20	20	35	20	20	20	20	1	1	2	5	na ⁵	2	20
Other flatfish ²		20	20	20	35	35	35	na ⁵	35	35	1	1	2	5	20	2	20
Other rockfish ³		20	20	20	20	35	20	20	20	20	35	15	7	15	20	2	20
Other species ⁴		20	20	20	20	35	20	20	20	20	1	1	2	5	20	2	na ⁵
Aggregated amount non-groundfish species		20	20	20	20	35	20	20	20	20	1	1	2	5	20	2	20

NOTES to Table 11	
1	Sablefish: for fixed gear restrictions, see 50 CFR 679.7(f)(3)(ii) and 679.7(f)(11).
2	Other flatfish includes all flatfish species, except for Pacific halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, Alaska plaice, and arrowtooth flounder.
3	Other rockfish includes all <i>Sebastes</i> and <i>Sebastolobus</i> species except for Pacific ocean perch; and northern, shortraker, and roughey rockfish. The CDQ reserves for shortraker, roughey, and northern rockfish will continue to be managed as the “other red rockfish” complex for the BS.
4	Other species includes sculpins, sharks, skates and octopus. Forage fish, as defined at Table 2 to this part are not included in the “other species” category.
5	na = not applicable
6	Aggregated rockfish includes all of the genera <i>Sebastes</i> and <i>Sebastolobus</i> , except shortraker and roughey rockfish.
7	Forage fish are defined at Table 2 to this part.