

Discussion Paper:
**Prohibition on continuing to fish after a partial offload in the BSAI Crab
Rationalization Program**
February 2019¹

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1 Introduction

In April 2018, the Council received a proposal from the Pacific Northwest Crab Industry Advisory Committee (PNCIAC)², requesting the Council consider removing a regulatory prohibition that bans vessels fishing for Crab Rationalization (CR) crab from conducting a partial offload of crab and then continuing to fish, prior to the offload of any remaining crab. In response to this testimony, the Council initiated this discussion paper in order to consider removing this regulation for the CR Program fisheries.

2 Background

The impetus for this regulation

Currently Federal regulations at 50 CFR 680.7(b)(3) state a prohibition on “resum[ing] fishing for CR crab or tak[ing] CR crab on board a vessel once a landing has commenced and until all CR crab are landed, unless fishing in the Western Aleutian Islands golden king crab fishery”. Under the CR Program regulations, a catcher vessel *may* offload portion of CR crab on the vessel at multiple processors, but the vessel is prohibited from fishing for CR crab between these offloads. This regulation was originally established with the implementation of the CR Program, intending to address enforcement concerns associated with a potential change in discarding behavior due to the new management of the fisheries. Specifically, there were concerns that undesirable crab (e.g. overages, deadloss, or barnacled crab) would be discarded at sea without being accounted for. There was concern that partial deliveries would exacerbate the opportunity to discard crab illegally.

Experience with the CR Program has shown that illegal (unreported) crab discards are unlikely for several reasons. There is no prohibition on sorting crab at the rail, and this is where highgrading often occurs. These discards are accounted for and ADF&G has communicated to industry that high levels of discarding at the rail would be reflected in the stock assessments and ultimate crab total allowable catch

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² PNCIAC proposal: <http://npfmc.legistar.com/gateway.aspx?M=F&ID=dca44ed3-5b69-491f-821e-6d0d51b7d539.pdf>

(TACs). While discarding crab later in the trip is not permitted, dumping crab at sea once it has gone into the tanks would be dangerous and impractical. Also, the risk of quota overages has been greatly reduced due to the cooperative structure, online quota transfers, and post-delivery quota transfers, giving the industry many options to resolve a potential overage. Finally, the structure of the crab rationalization program means more people than just the vessel operators are at risk by this sort of illegal action.

While this regulation may no longer be needed to address these enforcement concerns, the prohibition against continuing to fish for CR crab after an offload had begun and until the offload is complete has had the beneficial spillover effect of simplifying dockside sampling and catch accounting. Removing this prohibition for all CR fisheries may be problematic for State-run dockside sampling, catch accounting, and the State Observer Program. This issue is further explored in Section 4.2 of this paper.

An exemption for the Western Aleutian Islands Golden King Crab Fishery

In February 2015, the Council heard public testimony from crab industry representatives and representatives of Adak seeking an exemption from this prohibition specifically for the Western Aleutian Islands Golden king crab (WAG) fishery. At the time, a processor in Adak was working to develop a live crab market. In order to make this market opportunity economically viable, they needed vessels to be able to deliver smaller amounts of crab opportunistically while the commercial jet was in town. The cargo capacity of the jet was limited and it did not make economic sense for the processors to operate cold storage at the plant for sparse crab deliveries (NPFMC 2015)³. Therefore, without this flexibility vessels that had harvested more than the jet could accept would otherwise have to end their trip and travel to different processor (likely in Dutch Harbor) to offload the remainder of their tanks. The Council ultimately recommended an exemption to the prohibition for this fishery which became effective April 26, 2016. The Council wished to promote the product development/ market opportunity, the economic efficiency, and potential community impacts this exemption could foster (see Section 2.3 in NPFMC 2015). Additionally, ADF&G determined that given the small number of vessels prosecuting this fishery (consistently two to four vessels between 2006 and 2014), ADF&G staff could work with these vessel operators to ensure this change would be minimally disruptive to the monitoring and accounting for catch for the WAG fishery.

Regulatory authority for remaining BSAI crab fisheries

The BSAI crab harvesters are interested in having this flexibly applied to all of the CR crab fisheries. In addition to WAG, this would include eight other crab fisheries managed under the CR Program:

BBR Bristol Bay red king crab

BBS Bering Sea snow crab (*C. opilio*)

EBT Eastern Bering Sea Tanner crab (*C. bairdi*) – East of 166° W

WBT Western Bering Sea Tanner crab (*C. bairdi*) – West of 166° W

PIK Pribilof Islands blue and red king crab

SMB Saint Matthew Island blue king crab

³ North Pacific Fishery Management Council [NPFMC]. 2015. Public Review Draft: Regulatory Impact Review/ Initial Regulatory Flexibility Analysis for the proposed regulatory amendment – Western Aleutian Islands golden king crab full offload delivery exemption. October 2015. Anchorage, AK. Available at: <http://npfmc.legistar.com/gateway.aspx?M=F&ID=e0012a6e-2ad2-4787-a0c5-73b4f51e2fe0.pdf>

EAG Eastern Aleutian Islands (Dutch Harbor) golden king crab – East of 174° W

WAI Western Aleutian Islands (Petrol Bank District) red king crab – West of 179° W

The CR Program fisheries are managed jointly by NMFS and the State of Alaska. The Fisheries Management Plan (FMP) for the commercial king and Tanner crab fisheries in the BSAI specifies three categories of management measures for the king and Tanner crab fisheries in the BSAI. Category 1 measures are those that are specifically fixed in the FMP and require an FMP amendment to change. Category 2 measures are those that are framework-type measures which the State can change following criteria set out in the FMP. Category 3 measures are under complete discretion of the State of Alaska.

A change allowing crab vessels to conduct a partial offload of crab and then continuing to fish, prior to the offload of any remaining crab would require a Federal regulatory amendment. In addition, a number of programmatic changes may need to happen through the State Observer Program and Dockside Sampling Program. However, at this point it does not appear that State of Alaska regulations would be need to be amended.

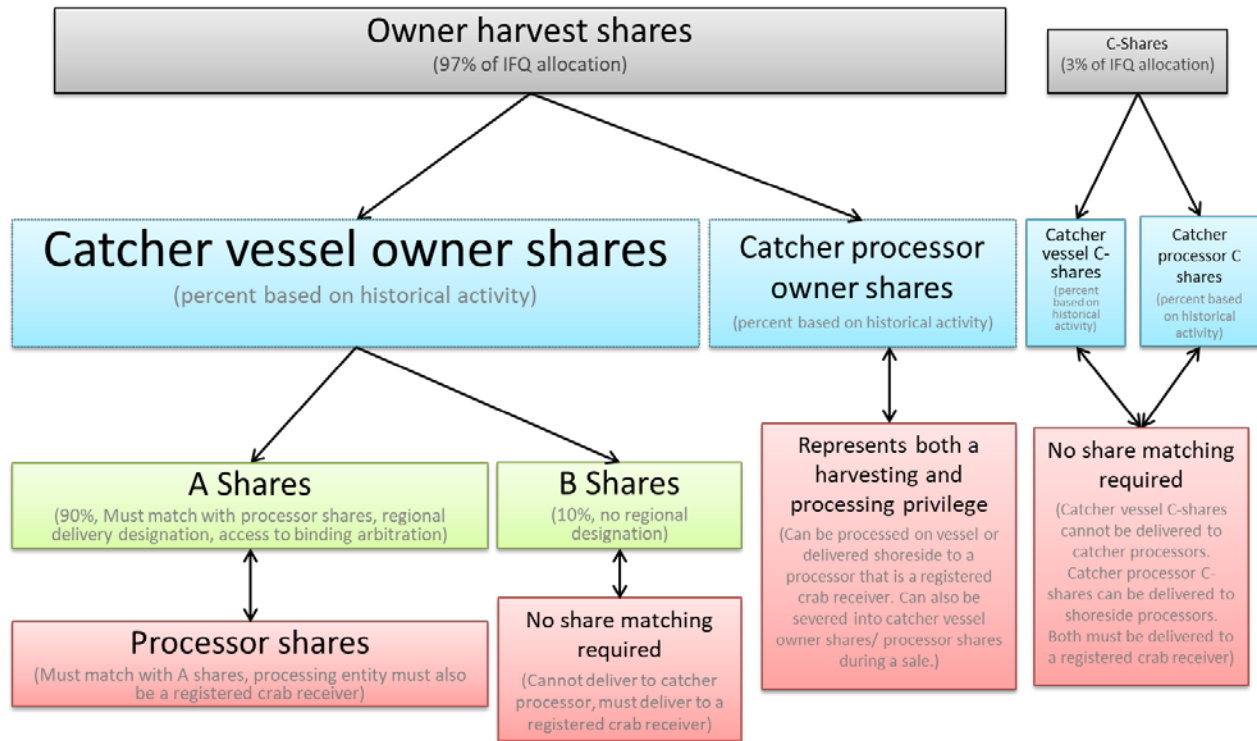
Description of crab QS delivery requirements

Understanding the requirements for BSAI crab deliveries is relevant context for considering the potential impacts of the proposed action. The CR Program established both harvester quota share (QS) and processor quota share (PQS), which are revocable privileges that allow the holder to harvest or process a specific percentage of the annual TAC in a CR program fishery. Approximately 97% of the QS (referred to as “owner QS”) in each program fishery (see Figure 1) were initially allocated to License Limitation Program (LLP) license holders based on their catch histories in the fishery. The remaining 3% of the QS (referred to as “C shares” or “crew QS”) were initially allocated to captains based on their catch histories in the fishery. These QS are issued annually as Individual Fishing Quota (IFQ), and PQS is issued annually as Individual Processing Quota (IPQ).

Catcher vessel owner IFQ are issued in two classes, Class A IFQ and Class B IFQ. Crab harvested using Class A IFQ are required to “share-match” with IPQ. This means crab harvested using Class A IFQ must be delivered to a processor holding unused IPQ. In addition, most Class A IFQ are subject to regional share designations, whereby harvests are required to be delivered within an identified region (see Table 1). Both of these delivery restrictions of Class A IFQ are intended to add stability to the processing sector and to preserve the historic distribution of landings and processing between regions.

Figure 1 Diagram of quota shares in the CR Program

Crab Fishery TAC - 10% for CDQ & Adak = IFQ allocation



Note: See BSAI Crab Rationalization Program ten-year review for more information on the categories of quota described in this figure.⁴

Table 1 Regional designations in CR Program fisheries

Crab QS Fishery	North Region	South Region	West Region	Undesignated Region
EAG	x	x		
WAG			x	x
EBT				x
WBT				x
BSS	x	x		
BBR	x	x		
PIK	x			
SMB	x	x		
WAI		x		

Source: 50 CFR 680.40 (b)(2)(iii)

3 Description of the Problem

In their public testimony, PNCIAC cited three reasons for this request:

⁴ North Pacific Fishery Management Council [NPFMC]. 2017. Ten-year program review for the crab rationalization management program in the Bering Sea/ Aleutian Islands. January 2017. Anchorage, AK. Available at: https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/Crab/Crab10yrReview_Final2017.pdf

1. *This amendment could help further address the North Region problems anticipated in the “Emergency Relief” regulations by allowing harvesters to deliver partial loads to processors during a processor’s slow periods; thus shortening the time needed to prosecute the fishery (and increasing both harvester and processor efficiency).*
2. *This amendment could help in the development of new product forms by allowing harvesters to deliver partial loads to meet flight schedules (in the case of live or fresh cooked crab) or particular market opportunities.*
3. *Under the current regulations, a harvester who wants to deliver a partial load to St. Paul (as an example) may be required to travel all of the way to Akutan or Dutch to complete the off-load before the vessel can return to the grounds. This is not only inefficient for the harvester, it leaves his/her gear on the grounds untended for an unreasonable length of time, with the attendant resource consequences.*

Harvesters also highlighted certain situations where the ability to do a partial delivery could alleviate stability and safety issues. For instance, some vessels are not rated to have three full tanks of crab in addition to all their all of their pots on deck. If the ice was advancing around the Pribilof Islands, requiring expeditious removal of gear from the grounds, under the proposed change, a vessel could deliver their “oldest” tank of crab, possibly freeing up capacity to pull their remaining gear prior to delivering the remaining tanks of crab.

In addition to the reasons cited by PNCIAC and harvesting representatives, NMFS Office of Law Enforcement (OLE) has previously voiced concern over this the existing prohibition during the analysis for exempting WAG from this requirement. Every year there are a small number of reported cases in which harvesters are constrained by this prohibition; primarily due to unique logistical issues (personal communication, B. Pristas, 1/10/19). As one example, if a vessel is conducting a split delivery of CR crab, (if they delivered to St. Paul and also plan to deliver to Dutch Harbor), that vessel is not able to pull pots until all of the crab is offloaded. This includes collecting gear that may be on the grounds, which may be considered “fishing”. In this example, the vessel would need to run to Dutch Harbor and then travel back out to the fishing grounds to collect empty pots. Officials are responsible for making sure this prohibition is maintained regardless of these circumstances. The OLE representative stressed that these types of circumstances are all a little different; sometimes the crux of the issue is related to weather and safety, often it has to do with the economics of the operations. It would be difficult to create an exemption for the diversity of the circumstances where this prohibition has become problematic; thus, OLE suggests removing the prohibition.

4 Potential Impacts of the Proposed Action

4.1 Potential Impacts on Harvesters

The primary impact expected for crab harvesters from proposed regulatory change is increased operational flexibility. Removing this prohibition would not require harvesters to change anything about their current operations, but it would allow them options in the circumstances in which it would economically benefit the harvester to conduct a partial offload.

The crab harvesters who have proposed removing this regulation expect this flexibility would only be used in emergency situations or special circumstances related to the safety or economics of the operations (personal communication, J. Jacobsen, 12/28/18). They do not anticipate that partial deliveries followed by additional fishing would become a routine operating procedure because in most cases it is more economically efficient to deliver all crab on the vessel before resuming fishing. Moreover, increased time in the tanks can increase chances for deadloss of crab, creating forgone revenue for the harvesters, as

further discussed below. As an example, it is expected that the WAG exemption to this prohibition has only been taken advantage of once since the regulations were changed in 2016.

This limited scope of use that is expected to occur under this action is the context for the assessing the impacts in the remaining sections. If something in the fishery changes that motivates additional partial offloads this could increase the impacts from what is suggested here (for example, potentially greater changes in the distribution of landings, the amount of deadloss that occurs, and the quality of the data collected from these fisheries).

4.2 Impacts for Monitoring and Accountability

The primary concern from the proposed action has to do with ensuring proper accountability. While this prohibition was initially included in the CR Program to alleviate enforcement concerns about illegal discarding, the practice of offloading all crab before returning to fish has greatly simplified the monitoring and accounting associated with crab harvesting. The proposed action complicates the data collection programs run by ADF&G and NMFS for the CR Program and may degrade the quality of some of the information collected.

Data collection and accounting in the BSAI crab fisheries are incorporated in a number of different ways. The State operates the Observer Program for BSAI crab fisheries. Some of the relevant reporting requirements include completing a Federal Daily Fishing Logbook (DFL), responding to a Confidential Interview Form (CIF), and submission of a Fish Ticket. In addition, the State runs a Dockside Sampling Program, stationing samplers in the major ports around the BSAI. Information collected through these avenues is used in management (e.g. accounting for IFQ and ensuring harvest remains under the TAC), informing quality science (e.g. stock assessments and TAC setting process), and enforcement (e.g. identifying the harvest of illegal crab). This section provides some background on the State Observer Program, relevant reporting requirements for crab harvesters and sampling responsibilities of observers and dockside samplers.⁵ Each section highlights any potential issues from the proposed action.

4.2.1 Observer Coverage

State of Alaska regulations (5 AAC 39.645) provide ADF&G the full authority and responsibility for deploying onboard observers on any vessel participating in the commercial BSAI crab fisheries as necessary for fishery management and data-gathering needs. Schwenzfeier et al. (2014)⁶ provides details on regulations pertaining to the State of Alaska Shellfish Onboard Observer Program and a history of that program from its inception in 1988. State regulations for observer coverage require CPs to have 100 percent observer coverage. The requirements for catcher vessels are outlined in Table 2. In the 2018/2019 season observer coverage was assigned by randomly selecting 20% or 30% of the vessels (in BBR and BSS/ WBT/ EBT, respectively) and requiring observers for the whole season. Prior to season opening, ADF&G will announce vessels that have been selected for observer coverage.

⁵ Further information is available in: Dockside Sampling Manual for the Bering Sea & Aleutian Islands Crab Fisheries, 2018/19. ADF&G Shellfish Dockside Sampling Program, Dutch Harbor, unpublished.

⁶ Schwenzfeier, M., M. Salmon, E. Evans, E. Henry, and L. Wald. 2014. Annual Report of the Onboard Observer Program for the Bering Sea and Aleutian Islands Crab Fisheries, 2011/2012. Pages 191 – 249 in Fitch, H., M. Schwenzfeier, B. Baechler, C. Trebesch, M. Salmon, M. Good, E. Aus, C. Cook, E. Evans, E. Henry, L. Wald, J. Shaishnikoff, and K. Herring. Annual management report for the commercial and subsistence shellfish fisheries of the Aleutian Islands, Bering Sea and the Westward Region's Shellfish Observer Program, 2011/12. Alaska Department of Fish and Game, Fishery Management Report No. 14-54, Anchorage.

Table 2 Observer coverage requirements for catcher vessels in the CR Program fisheries

Crab Area	Crab fishery	Observer coverage requirement
Registration Area O (Aleutian Islands)	red king crab (W of 179 W long)	During 100% of the harvest
	golden king crab (W of 174 W long)	During 50% of the total harvest for each of the 3 trimesters.
	golden king crab (E of 174 W long)	During 50% of the total harvest for each of the 3 trimesters.
Registration Area T (Bristol Bay)	red king crab	During harvest of 20% of the total red king crab weight harvested by each CV OR the department can randomly select 20% of the CV harvesting BBR to carry an observer for 100% of the time
Registration Area Q (Bering Sea)	Pribilof Islands red and blue king crab	During 100% of the harvest
	St. Matthew Island Section of the Northern district blue king crab	During 100% of the harvest
Registration Area J (Westward)	Bering Sea District C. opilio	During harvest of 30% of the total C. opilio weight harvested by each CV OR the department can randomly select 30% of the CV harvesting C. opilio to carry an observer for 100% of the time
	Bering Sea District C. bairdi	During harvest of 30% of the total C. bairdi weight harvested by each CV OR the department can randomly select 30% of the CV harvesting C. bairdi to carry an observer for 100% of the time

Source: State of Alaska regulations 5 AAC 39.645

For the purposes of observer sampling, an observed trip is considered to be the time period between when an observer boards a vessel and the complete delivery of all crab harvested. The observer’s second trip starts after the first full offload is complete, and so on. Observer trips are not defined in state regulations, but the observer sampling protocol directs observers to conduct a tank inspection at the beginning of their initial trip to confirm that the tanks are empty (NPFMC 2015). Sometimes, a CV will deliver portions of the catch from the same trip to different processors, and if it is an observed trip, the observer stays on the vessel until the offload is complete.

Likewise, under the proposed action to allow partial offloads of crab within a trip, if a vessel does not deliver all of its harvested crab to a processor, and resumes fishing, the observed trip would likely not be considered complete until the entire observed harvest has been delivered. However, since observer coverage for BBR, BSS, and WBT/EBT is not based on a trip-by-trip basis (instead it is based whether the vessels is selected or not or based on a percent of the vessels total harvested weight) partially offloading crab while a trip is still occurring should not interfere with the observer selection process.

This action would likely require some changes in protocol to address these types of trips. For example, if a vessel has an observer, that observer is responsible for conducting the Confidential Interview and obtaining the Daily Fishing Logbook pages as will be described below. The Observer Program may need to develop protocol to determine how and when these reporting requirements are addressed.

4.2.2 Reporting Requirements

Confidential Interview Form (CIF) and CIF Summary Observers or dockside samplers interview the vessel operator and record information regarding fishing locations, the number of crabs retained, number of pots lifted, average soak times and fishing depths, and gear sizes. The CIF and the CIF Summary are a synopsis of the daily activities of the vessel and are submitted together as a single data set when a trip is completed. The CIF is a day-to-day breakdown of fishing activity, and the CIF Summary encapsulates trip and offload information such as average weights and deadloss weights, and personal use specific to the offload.

If a CV delivers portions of the catch from the same trip to different processors, one CIF data set is completed for the entire trip and one CIF Summary is completed for each offload. Each CIF Summary has

the corresponding processor name, port, and summary date for the offload. In the event of multiple deliveries from the same trip, the interview is conducted and the DFL pages pulled during the first offload, or larger delivery if that can be discerned. In particular, when these responsibilities fall to the dockside samplers (as opposed to the observer, which may be on board for the full offloading process), communication among different dockside samplers as well as vessels operators becomes very important in ensuring all of the reporting and sampling responsibilities are completed.

Daily Fishing Logbook (DFL) NMFS requires DFLs for vessels that participate in the CR Program. The DFL include a set-by-set breakdown of the catch. The vessel operator will record the start and end latitude and longitude for each set, which is later translated into ADF&G statistical area. Additionally, each set includes soak time, pots depth, number of lost pots, and an estimate of the number of crab and total estimated weight. The observer or dockside sampler collects one of the carbon copy pages from the DFL and submits them along with the CIF summary. Often the DFL provides the most detailed information on catch by statistical area. If this information is detailed and accurate it expedites the interview process for the CIF. The DFL is used as a tool to assist in editing the confidential interview; both are used by management staff to verify fish ticket information and to edit catch and effort by statistical area.

If partial offloads of crab are permitted, ADF&G would need to establish a protocol for conducting the interview and collecting the DFL pages in these conditions for observers and for dockside samplers. This may need to take place after the second round of fishing has occurred in order to account for data on the full “trip”. Likely, significant communication would also need to occur between dockside samplers and vessels operators. It would be advantageous if harvesters were required to notify ADF&G of the intention to conduct a partial offload and retain fishing prior to landing.

Fish Ticket The fish ticket is a record of product purchased from a fishing vessel by a processor. One fish ticket is submitted for each offload per registered crab receiver (RCR). Many IPQ holders (constituting different RCRs) will have their quota leased or custom processed which means that during offload at one processor, multiple fish tickets may be submitted. In addition to including the official weight and number of crabs purchased and deadloss not purchased, the vessel operator will also provide information on the statistical area of the catch. Experience with fish tickets have shown these self-reported fields tend to be more general and less accurate. Thus, the fish ticket is later edited with statistical area of catch using CIF and DFL information obtained by observers and dockside samplers.

Therefore, in addition to changes in protocol to respond to a partial offload within a trip, there is a data quality concern of maintaining catch and effort by statistical area. For instance, in a delivery that occurs after a second round of fishing, when “older” and “newer” crab are comingled in tanks, it may not be possible to identify which crab was harvested from where and the characteristics that are associated with that fishing. It is expected that requiring vessels to keep crab in sperate tanks would not be enforceable. There may be a way to require notification of these types of partial delivery trips so they may be tracked. Fish tickets could include a box that would notify the data user that delivery was part of multiple rounds of fishing. This would help analysts track how often this opportunity is used. However, without knowing the total amount of crab that was attributed to the first part of the fishing trip it is not possible to edit the fish tickets. The process of editing the fish ticket with observer information, DFL pages, or a CIF summary bolsters the accuracy of catch and effort by statistical area.

ADF&G is able to provide this back-up information in order to edit the fish ticket for the majority of trips. For instance, during the 2017/18 season, in approximately 90% of the deliveries for BBR, BSS, or WBT fisheries, an interview was conducted and DFLs were obtained by either an observer or dockside sampler (personal communication, E. Nichols, 1/21/19). The DFL are required to be completed in every trip. Depending on TACs and available resources, dockside samplers are generally stationed in Dutch Harbor, St Paul, King Cove, and Akutan. If there is no dockside sampler or observer present, DFL pages are collected and reported at a later date.

Catch, effort, and catch per unit of effort data (CPUE), (defined as number of crabs per pot lift) by statistical area are used by ADF&G for understanding fishing behavior and performance. While the stock assessments may not incorporate this fine of a spatial component, there has been some increased interest in incorporating more of a spatial component in stock assessments and for research purposes (personal communication, B. Daly, 1/22/19). In addition, these statistics are considered during the TAC-setting for crab fisheries. If the quality of this information is compromised, it may not be considered.

4.2.3 Sampling

At-sea sampling (Observers) Randomly selected pot lifts are enumerated and sampled for species identification. For a subset of these pot lifts, measurements and assessments of ancillary characteristics are also recorded for crab of selected species. The protocol is the same for both CVs and CPs, but the target number of sample pots may be different, depending on vessel type.

Pot sampling conducted by observers provides independent data on species composition and bycatch, CPUE, size frequency distributions, crab diseases, fecundity, and mortality associated with fishing or sorting. Specifically, observers record: the sex, carapace length, and shell condition of each crab; the legal status, relative to the minimum legal size of each male; the fate of each legal male as either retained (i.e., for delivery or processing) or non-retained (i.e., discarded); and data on the reproductive condition (clutch fullness, egg development, and egg color) of each female.

Protocol for at-sea sampling would likely not change under the proposed action. The Observer Program may need to define and adjust to a new definition of “trip” for some sampling purposes.

Retained catch sampling (Observers and Dockside Samplers) Observers sample retained catch in EAG, WAG, commissioners permit fisheries, floating processors, catcher processors, and cost recovery fisheries. In the BBR, BSS, EBT/WBT, and SMB fisheries, both on observed or unobserved vessels, a dockside sampler will perform retained catch sampling duties.

Average Weights: Observers and dockside samplers obtain independent, representative average weights of retained crab that are reported on the Confidential Interview Summary form. At least three brailers per species retained, and one brailer from each tank are taken when possible. If a processor is using totes instead of brailers, the target is to sample at least six totes per species retained. A full count of crab in each brailer or tote is taken to compute average weight.

Currently, in the event of a multiple deliveries, the objective is to have a dockside sampler or Observer obtain an average for each offload. Therefore, it is likely that if the proposed action was passed, ADF&G would seek to obtain average weight at each partial offload within the trip.

Size Frequency: The objective of size frequency sampling is to document the distribution of size classes and shell conditions in the retained catch to determine which segments of the crab stocks are removed by fishing. Because crabs shed their entire exoskeleton when they molt, physical size is the only practical method for estimating age. The biological measurements made by observers and dockside samplers are compiled to show the relative age distributions of crab populations and strength of discrete age classes. Size frequency data are also used to generate estimates of abundance and recruitment (in the stock assessment model) and may be used to establish allowable harvest rates and predict population trends. The goal is to conduct a 100-crab size frequency sample for every offload. If the vessel offloads to different processors in the same trip, a 100-crab sample for each offload is conducted by the observer, using separate forms for each offload. Dockside samplers conduct size frequency samples at only one processor in the event of multiple deliveries.

Under the proposed action, ADF&G may wish to conduct size frequency sampling after the second round of fishing to ensure crab are not double-sampled. In addition, size frequency sampling can lead to a legal

tally if illegal crabs are identified within that sample. As will be discussed below, in the event of citation, enforcement must be aware of the total weight of the retained catch in order to determine the percentage that would be seized. This may not be apparent during the first offload if crabs remain in the tanks.

Deadloss Estimate: At each delivery, a dockside sampler or observer will seek to obtain an estimate of the deadloss onboard. These estimates are recorded in two categories, the first being “live, legal and not purchased” – for crab that was legal-sized male but not purchased by the processor. This may include crab with barnacles, very old shell or in certain fisheries (BSS or WBT/ EBT) processors may have size standards higher than the legal size. The second category of deadloss is “all other, live or dead”, referring to females, undersized crab, or deadloss not purchased by the plant.

Currently, in the event of a multiple deliveries, the dockside sampler or observer will estimate deadloss at each offload. Therefore, it is likely that if the proposed action was passed, ADF&G would seek to obtain average weight at each partial offload within the trip.

Legal Tally: A legal tally may be performed if illegal crabs are found in the size frequency to determine the percentage of illegal (female, sublegal, or illegal species) crabs being retained by a vessel. The sampling goal is a tally of 600 crab or 25% of the load, whichever is smaller. If multiple deliveries are made to different processors in the same trip, a 600-crab sample is performed for the entire trip, apportioned over all deliveries. If possible, sampling is done proportional to how much crab is delivered to each plant.

The proposed action presents a challenge for understanding how to interpret the enforcement response to illegal crab. The collection of evidence specimens is determined by the calculated percentage of illegal crab, based on the total number of illegal crabs from all partial deliveries for one trip combined. However, if illegal crab is discovered in the first offload, and enforcement does not know the total weight of the retained catch, they would not know the percentage that would be seized. This could occur if some crab from the first round of fishing remained in the tanks. If legal tally was collected after the second round of fishing, there may be no way to differentiate one partial fishing trip from the other. It may be that for enforcement purposes, both rounds of fishing would need to be considered one “trip”. Therefore, if illegal crab was discovered and a percentage was seized, the basis weight would be everything delivered within that trip.

4.2.4 Cost of Implementation

There are several one-time costs and a few ongoing costs that would be incurred under the proposed action. One-time costs include those associated with the rule-making process; costs associated with an FMP and regulatory amendment. In addition, this action would require ADF&G staff to further consider programmatic changes that may need to occur. There would be programming costs associated with amending the fish ticket form to include notification of this type of partial offload trip and some mechanism to link it to the other deliveries after the second round of fishing. The primary variable cost that would be expected to continue overtime includes the increased communication necessarily among ADF&G dockside samplers, crab vessel operators and ADF&G, as well as plant managers and ADF&G to identify this situation and have an adequate plan in place for accounting.

The industry would be responsible for any increased management costs through cost recovery. Section 304(d) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) authorizes and requires the collection of cost recovery fees for limited access privilege programs (LAPP) and the Community Development Quota Program. As a LAPP, the CR Program includes a cost recovery component which authorizes the collection of actual management and enforcement costs **up to three percent of ex-vessel gross revenues.**

In calculating cost recovery fee, direct program costs are calculated by determining the incremental costs of managing the CR Program; that is, costs that would not have been incurred but for the CR Program. These costs cover the management, data collection, and enforcement of the CR Program by NMFS, the Alaska Department of Fish and Game (ADF&G), and the Pacific States Marine Fisheries Commission (PSMFC). To arrive at these costs, every operating unit calculates CR Program direct program costs, broken out by cost categories including personnel/overhead, travel, transportation, printing, contracts/training, supplies, equipment and rent/utilities.⁷

Recent years have not reached the three percent threshold; thus, additional fees could be levied. The cost recovery fee was 1.57% for both the 2016/17 and 2017/18 seasons and then increased to 1.85% for the 2018/19 season. This increase in the fee for the 2018/19 season was due in part by the increase in direct program costs (2.9%), but primarily due to a \$24.0 million decrease in the value of the crab harvested in the program.⁸ The last time the fee was assessed at the maximum of 3% was in the 2007/08 season.

4.3 Potential Impacts on Processors and Communities

As the Council considers amending regulations to allow crab vessels to conduct a partial offload of CR crab and continuing to fish, it is necessary to understand the potential impacts to the processors and communities connected to these deliveries. Because the proposed action would not change the underlying management structure of the BSAI Crab Rationalization Program, particularly in terms of the established delivery requirements described in Section 2, it is expected to have a fairly limited scope.

The proposed regulatory amendment would not change the requirement to have access to IFQ in order to harvest CR Program crab, nor the requirement to have access to IPQ in order to process catcher vessel A share crab. The amendment would not change the meaning of the QS or PQS. Given the marginal increased flexibility this regulatory change may have for harvesters, the proposed amendment is not expected to impact who holds the QS or PQS (i.e., it is not expected to influence quota share market activity), or who harvests the IFQ.

This section discusses potential implications if this regulatory change motivates harvesters to change their fishing behavior from their operations in the recent past (i.e. delivery patterns for B and C shares, rates of crab deadloss, ability to access live markets). These issues are considered under the presumption that this flexibility would only be used in rare events, rather than as a standard operating procedure.

Distribution of landings

A change in the distribution of crab landings from recent trends could impact both processors and communities. There are a few reasons not to expect the proposed action to create large changes in the distributions of landings. As previously described, catcher vessel A shares must be delivered to a processor holding unused IPQ. In addition, A class IFQ and IPQ are subject to regional share designations. In most CR Program fisheries, regionalized shares are either North or South, with North shares designated for delivery in areas on the Bering Sea north of 56° 20' north latitude and South shares designated for any other areas, including Kodiak and other areas on the Gulf of Alaska (see Table 1). These provisions, which are intended to protect processor investment in program fisheries and preserve regional interests in the fisheries, would not change under the proposed action.

Class B and C shares however, can be landed with any RCR. QS holders that were issued or have acquired catcher vessel owner shares and are unaffiliated with a processor receive 90% of their IFQ as A

⁷ For more information about how the fee is calculated, the breakdown of expenditures, or the fee overtime, see: https://alaskafisheries.noaa.gov/sites/default/files/crabfleetreport_fees2016_2017.pdf

⁸ 83 FR 34119

Class and the remaining 10% as B class.⁹ In addition, C share IFQ, available to be held by active crew in the fisheries, are free from processor share landing requirements and may be landed with any RCR. The absence of delivery restrictions with Class B and C IFQ is intended to provide harvesters with additional market leverage for negotiating prices for landings of crab. With additional flexibility for partial deliveries, there is a possibility that the proposed action may result in some change in distributional B and C share crab landings.

Crab deadloss

Deadloss is the amount of dead crab landed at the dock and includes any illegal crab that cannot be processed or sold, such as illegal species, females, and undersized male crabs. All deadloss is discarded, because it cannot be sold. As long as all deadloss is landed, it is an economic problem rather than a biological problem, because the deadloss is deducted from the TAC and the IFQ allocations. Deadloss is exacerbated with time; when vessels are not able to offload quickly, due to longer trips or extended wait times at the dock. Mortality can also increase with poor water quality (i.e. freshwater influence) and with the presence of snails in the tanks (personal communication, S. Wilt, 12/17/18).

Both harvesters and processors have a financial incentive to minimize deadloss since these pounds are deducted from the IFQ, but the crab is not marketable. The more pounds of deadloss, the more forgone revenue for both parties. However, deadloss can particularly devalue IPQ, which often matches with A class IFQ. While harvesters may sometimes choose to attribute deadloss to B and C class IFQ, these classes of IFQ are able to be landed with any RCR and therefore are generally more valuable. Thus, there is a financial incentive for any deadloss to first be applied to any available A share IFQ. Additionally, harvesters may use this flexibility when their own benefits outweigh the costs of potential increase in deadloss. These types of benefits (e.g. saving time and fuel costs of returning the fishing grounds) may not spillover for the processors; however, the costs of deadloss would. Thus, processors holding IPQ may be practically sensitive to minimizing crab deadloss.

Markets for live crab

As previously highlighted, one of the primary reasons the Council recommended an exemption for the WAG fishery from the regulation in question, was to encourage the development of a live crab market in Adak. The development of this type of specialty market in the BSAI is relatively new and has the potential to provide a premium price for BSAI crab as demonstrated in the analysis for that action.¹⁰ Thus, given the capacity restrictions on air transportation out of Adak, the partial delivery flexibility for WAG was intended to facilitate smaller, opportunistic deliveries to the live market.

The vast majority of king, BSS, and WBT/ EBT crab caught off of Alaska are butchered, cooked, frozen, and sorted by size upon landing. The primary product from these species is frozen crab sections, which accounted for about 95% of all king crab product volume caught off Alaska in 2014 and almost 100% of all BSS, and WBT/ EBT crab product volume caught off Alaska in 2014.¹¹ In addition to cooked and frozen sections, about 5% of Alaskan king crab was sold whole (either frozen or alive) in 2014 and small amount of Alaskan BSS and WBT/ EBT crab is also sold raw for consumption in Asian markets (ibid).

⁹ To ensure that the benefit of the B share allocation to independent harvesters is not diminished by vertical integration, B shares are issued only to QS holders to the extent of their independence of processor affiliation. Affiliation under the regulation exists in the case of either functional control of the QS holder or common ownership in excess of 10% (50 CFR 680.2). QS holders receive Class A IFQ in an amount equal to the IPQ allocation of their affiliates, with any remainder subject to the Class A IFQ/Class B IFQ split.

¹⁰ NPFMC. 2016. Final Regulatory Impact Review: Western Aleutian Islands golden king crab full offload delivery exemption. March 2016. Anchorage, AK. Available at: <https://www.regulations.gov/contentStreamer?documentId=NOAA-NMFS-2015-0136-0010&contentType=pdf>

¹¹ Alaska Fisheries Science Center [AFSC]. 2016. Wholesale market profiles for Alaska groundfish and crab fisheries. Seattle, WA.

Developing a specialty market for live crab requires considerable sensitivity. In addition to ensuring the crab survives the journey out of the ocean, in and out of the vessel tanks, through offloading and weighing, operators must also ensure survival through tote storage, as well as packaging and air transportation, until they reach their destination. Deadloss is a primary concern. The Adak's Eagle Call described operations under Premier Harvest, LLC, the RCR in Adak, when the WAG action was proposed. On the day of shipment, the totes were drained, and crab was placed right-side up in boxes lined with wax paper and moist environment.¹² If the plane could not arrive due to weather, the crab must be unpacked and carefully returned to the habitat totes, which can increase the risk of deadloss.

More recently, Golden Harvest Alaska Seafoods has taken over processing operations in Adak, processing Pacific cod, pollock, and halibut in addition to live and frozen crab.¹³ Diversification in species allows for the economies of scale needed to operate frozen storage and provides for the ability to receive larger shipments of crab than just what the jet may hold for live market delivery (personal communication, S. Minor, 1/7/19). The 2017 season was the first year Adak-based Golden Harvest Seafood shipped live golden king crab to markets in China.¹⁴ This processor hopes to expand their live crab market to other species of crab as well; however, these market opportunities depend on many other factors (e.g. tariffs resulting from the trade war with China). If they are able to develop markets for live BSS, and WBT/ EBT crab, the proposed regulatory change may eliminate the occasional instances when this regulation prevents vessels from delivering to this or other live markets opportunistically.

If the proposed action facilitates delivery to existing or future live crab markets, it may be beneficial to the harvesting sector, however it may result in a reduction in the quality of the crab destined for the traditional market. Crab destined for the live crab market are chosen for survivability, and crew may carefully select large, clean, undamaged crab for delivery to the live market. Thus, an increase in opportunity for current or future live crab market could result in processors that do not participate in this market receiving a relatively larger portion of lower quality crab (e.g. smaller or with barnacles).

While high grading for a live market may be a concern for processors specializing in cooked frozen sections, the proposed action's marginal influence on harvester's ability to access a live market is expected to be small. Again, this change is expected to be used in specific emergency situations or special circumstances related to the safety or economics of the operations. Markets for live crab may develop regardless of this action; however, removing this regulation may eliminate the occasional instances when the regulation prevents vessels from delivering to live markets opportunistically. Thus, the proposed action may facilitate this type of market in specific circumstances.

5 Next Steps

If the Council chooses to move forward with this action it should identify a purpose and need statement and develop an alternative(s) for consideration in an initial review draft analysis. If this action continues, likely the action alternative would be to remove the Federal regulation at 50 CFR 680.7(b)(3) that states the prohibition against continuing to fish for CR crab once an offload has begun, until all crab have been offloaded. This action would not likely require changes to state regulations, but it would require some programmatic changes throughout State-run data collections such as dockside sampler and observer protocol.

¹² "The New Company in Town, Premier Harvest, LLC". The Adak Eagle's Call. April 2015. Available at: <https://adak.ak.us/content/tec/2015-04.pdf>

¹³ <http://goldenharvestalaska.com/>

¹⁴ Parker, P. 2018. "Adak's push into the live king crab market continues despite hurdles." Seafood News. September 10, 2018. Available at: <https://www.undercurrentnews.com/2018/09/10/adaks-push-into-live-king-crab-markets-continues-despite-hurdles/>