

**Public comment and Council direction**

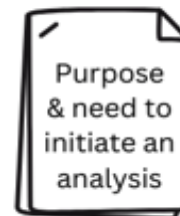
Give input on scope and content of planned review.

**Public comment and Council direction on the review  
(not the program)**

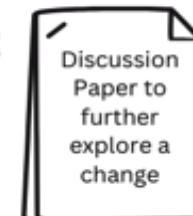
The review should adequately assess impacts of the program.  
The review should also evaluate if the program is meeting its goals and objectives.



**If the Council decides to make changes to the program:**



OR



[Program Review Schedule & Current Reviews](#)

# D2 Crab Rationalization Program 17-Year Review

June 2024



This study is intended to meet the requirements of the Crab Rationalization (CR) Program Review and the Allocation Review.



## Program Objectives:

- (1) [Promote] resource conservation, utilization, and [address] management problems;
- (2) [Reduce] bycatch and its' associated mortalities, and potential landing deadloss;
- (3) [Reduce] excess harvesting and processing capacity, as well as [discouraging a system that promotes] low economic returns;
- (4) [Promote] economic stability for harvesters, processors and coastal communities;
- (5) [Eradicate] the high levels of occupational loss of life and injury;
- (6) Address the social and economic concerns of communities;
- (7) Promote efficiency in the harvesting sector;
- (8) [Promote] equity between the harvesting and processing sectors, including healthy, stable, and competitive markets.



## Program Elements

1. Total allowable catch
2. Harvesting shares
3. Processing shares
4. Regional landing designations
5. Right of first refusal (ROFR)
6. C share allocation to protect captain and crew interests
7. Catcher processor shares
8. Binding arbitration system
9. Cooperatives
10. Community Development Quota (CDQ) and Adak community allocations
11. Low interest loan program
12. Annual economic data collection (Crab EDRs)



## Presentation Overview:

- Dashboards are presented in Executive Summary and Section 5. The intent is to provide a high-level overview of the BBR, BSS, AIG, and all CR Program fisheries combined to show how catch, participation, value, diversification, vessel owner communities, and catcher vessel and catcher processor shareholder communities have changed under the CR Program.
- Crab fishing years cover two calendar years and some catch data and EDR data in this report are annual data. Caution should be used when comparing data that reports annual information against fishery year data (e.g., catch vs. TAC data in the dashboards).



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Program Objective: Promote resource conservation, utilization, and [address] management problems.

- The program has allowed fisheries to be open under low TACs
- Season lengths have been extended (Section 4.11) often from a few days to several months
- The race for fish was slowed because of program elements that provided individual allocations of QS to vessel owners, crew members, and processors.



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## Program Objective: Promote resource conservation, utilization, and [address] management problems

- TACs were established for each fishery and have never been exceeded under the CR Program (Section 4.2)
- Reductions in lost pots (ghost fishing - Section 4.10)
- Improvements in data quality (Section 4.3)
- Less need to rail dump pots due to fishery closures/allocations (Section 4.7)
- Fewer management problems under the cooperative structure but some challenges remain (Section 9).



## NMFS Management Issues (Section 9)

- Aging computer infrastructure, stranded shares, allocating QS, and mixed landings, etc.
- Barriers to entry
- Direct marketing issues
- Estate planning and beneficiary issues
- Potential Future Actions
  - Stranded CVC and CPC Shares
  - Volume and Value Reports
  - AIG Dates





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## Program Objective: Reduce bycatch and its' associated mortalities, and potential landing deadloss.

- BBR overall discard rate is variable but has declined slightly from a rate of 1.7 crab discarded for every crab retained before the CR Program to 1.5 crab discarded for every crab retained after CR Program implementation.
- BSS overall discard rate has been relatively stable since implementation of the program but starting in 2015, increased slightly in all years except 2020.
- Closures in both the WBT and EBT fisheries make it is difficult to compare discard rates pre and post CR Program. Both fisheries average discard rate and percentage of discarded female crab has been lower post CR Program.
- In the AIG fisheries, the discard rate began declining before 2006. Under the CR Program discards in the WAG and EAG fisheries have been stable ranging from 0.6 to 1.1 crab discarded for every crab retained.



## Program Objective: Reduce bycatch mortality.

- Under the CR Program, fishermen have more flexibility regarding when to fish, and for safety reasons are more likely to choose not to fish in the extreme weather conditions that may have been necessary before rationalization. It is possible that some of these considerations may have affected handling mortality since extreme cold and windy appear to increase mortality of discarded crab.
- Studies have shown that longer soak times, in conjunction with required pot escape mechanisms, are likely to increase the proportion of legal versus non-legal crab caught in a fishery. Soak times have more than doubled on average under the program for fisheries that were open in both periods since 2000.



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## Program Objective: Reduce bycatch mortality.

- Slowing the pace of fishing allows fishermen to improve fishing methods, including sorting on deck.
- Many vessels have conveyors and chutes that discard bycatch without the need for additional handling.
- It is possible that some of these considerations may have affected handling mortality.



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## Program Objective: Reduce landing deadloss

- When compared to the period immediately preceding implementation of the CR Program, the rate of deadloss in the BSS crab fishery is slightly lower post rationalization (Table 4 2).
- In the other CR Program fisheries, there has not been a significant change in the rate of deadloss pre and post rationalization.



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Program Objective: Reduce excess harvesting and processing capacity, as well as discouraging low economic returns.

- The allocation of QS to harvesters and the use of cooperatives has allowed the harvesting sector to better match harvesting capacity with the TAC available
- Table 6-9 shows a 80% decrease in active vessels from the year before the program was implemented (2004) to the most current year of data (2022)
- It also shows a 38% decrease in active vessels since the last review in 2016 to 2022
- The recent declines occurred primarily in the BBR, BSS, and WBT fisheries, that experienced substantial TAC declines after 2015



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Program Objective: Reduce excess harvesting and processing capacity, as well as discouraging low economic returns.

- The allocation of crew shares (C shares) was intended to provide crew with additional market power and aid their transition to vessel ownership.
- The ROFO program was industry organized to give crew the opportunity to purchase up to 10% of QS transferred.
- Overall, the market for C shares has been weak in recent years as demand is very low, due to the cost of entry, limited pool of buyers, and the uncertainty in the fisheries.
- The Council has been addressing the active participation requirement challenges as the number of active vessels has declined.



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Program Objective: Reduce excess harvesting and processing capacity, as well as discouraging low economic returns.

- Processors have also been able to better match capacity to the TAC because of the allocation of PQS.
- Table 8-15 shows the distribution of processors by community.
- It a decrease in active shorebased processors from 18 to 6 from 2004 through to 2022.
- Harvesters have expressed concern over the lack of markets in some areas and the overall reduction in processors.
- World markets and other factors, primarily outside the control of the CR Program, have created challenging economic conditions for both harvesters and processors.



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Program Objective: Promote healthy, efficient, and equitable harvesting and processing sectors.

- Participation in cooperatives has increased since implementation and are utilized to facilitate transfer of IFQ during the fishing year.
- Allows harvesters to utilize efficient vessels without being subject to use caps.
- Foster cooperation within the fleet
  - Address concerns about division of program benefits (e.g., limiting BBR and BSS lease rates to protect crew shares).
  - ROFO to crew for QS transfers





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## Program Objective: Promote healthy, efficient, and equitable harvesting and processing sectors.

- Share matching and binding arbitration system provides a structure to increase communication between harvesters and processors
- Harvesters generally support the provisions but have concerns regarding the possibility of share matching with a processor that may be unable to pay for deliveries.
- Processors are less supportive of the system and expressed concerns over the general structure of the share matching/ “baseball” style arbitration system and the division of revenue formula that has been utilized.
- Concern was also expressed over the cost (averaged about \$110k over the past 7 years) of submitting the annual information (divided equally between harvesters and processors), even when fisheries are not open.



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Program Objective: Promote healthy, efficient, and equitable harvesting and processing sectors.

- Low interest loan program (Section 6.9.4)
  - Maybe used for the purchase of harvest quota. FFP loans may also be used for refurbishing, modernization or purchasing existing fishing vessels, but may not be used for the purpose of substantially increasing the harvesting capacity of vessels.
  - During the fiscal years 2011 through 2023 the FFP program approved 18 loans for a total of \$5.7 million for an average of about \$317k per approved loan application.



## Program Objective: Data collection

- Annual economic data collection (Crab EDRs). The EDR program is a mandatory census of detailed cost, revenue, ownership, and employment data collected from owners and leaseholders of vessels and processing plants, and Registered Crab Receivers, participating in CR Program fisheries.
- EDR data are used extensively in the annual Crab Economic SAFE, program reviews, and analytical documents for BSAI King and Tanner Crab FMP amendments. The EDR program is a primary reason that the need for extensive additional data collections have not been recommended as part of this or past CR Program reviews.



## Program Objective: Data collection

- Recordkeeping and reporting regulations have improved in-season fishery data collection. All vessels are required to complete daily fishing logbooks since the CR Program was implemented.
- Logbooks increased the consistency of reporting and improved summaries of catch and effort data by fishing location that is collected by observers and dockside samplers.
- Federal regulations require Registered Crab Receivers to use eLandings. That system has built-in error checking so most processor data entry errors are caught immediately.



## Program Objective: Data collection (Section 4.3.1)

- The slower fishing pace allows observer paperwork to be completed, entered, and edited more promptly, freeing observers to participate in special projects.
  - short-term mortality holding experiments to improve estimates of discard and handling mortality,
  - recording male chela height to help inform size at maturity information used in stock assessments,
  - mature female, and egg clutch collections for use in assessing reproductive potential,
  - and collection of crab hemolymph i.e., blood, to assess bitter crab disease.



## Program Objective: Data collection (Section 4.3.2)

- Collaborative research programs by crab industry and management agencies were rare before the CR Program. Agencies and industry foundations have worked on several projects. For example:
  - Crab surveys, crab movement, bycatch, habitat, recruitment limitation, and predation.
  - Growth rate of Tanner and snow crab
  - Transcribing logbook data from 2005 through 2016 for analysis and mapping purposes.
- Industry contributions to these collaborative programs have been severely impacted by the recent collapse of the snow crab fishery and closure of the Bristol Bay red king crab fishery.



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Program Objective: Eradicate the high levels of occupational loss of life and injury.

- During the 1990's, the BSAI crab fleet was identified as the most hazardous commercial fishery in the United States. During that decade, 73 BSAI crab fishery crewmembers died because of vessel disasters, falls overboard, or on-board injuries (Lincoln et al., 2013).
- No fatalities have been attributed to the crab fishery since the last program review. NIOSH reported six fatalities on one pot boat sinking during February 2017, but that sinking was attributed to the pot cod fishery.
- NIOSH has not updated nonfatal injuries report generated as part of the 10-year CR Program review. Those data are not routinely collected as part of its surveillance activities. The 10-year review found safety had improved.



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## Program Objective: Address the social and economic concerns of communities

- Regional landing designations
- Right of first refusal (ROFR)
- Community Development Quota (CDQ) and Adak community allocations





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## Program Objective: Address the social and economic concerns of communities (continued)

- Section 8 Social and Community (pg 142)
  - Incorporates key elements of a Social Impact Assessment (SIA)
  - Focus on what has changed since the 10-year program review
  - Focus on outcomes relative to CR Program elements designed as or have functioned as community protection measures



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## Program Objective: Address the social and economic concerns of communities (continued)

- Section 8.1 Regulatory Context (pg 142)
  - MSA National Standards
  - Environmental Justice
  - Tribal Consultation and Collaboration
  - Recent Executive Orders
  - NOAA Fisheries Equity and EJ Strategy



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Program Objective: Address the social and economic concerns of communities (continued)

- Section 8.2 Fishery Community Engagement and Dependency (pg 148)
  - Distribution of Catcher Vessels within Alaska
    - Fewer CVs over time, with consolidation into:
      - Fewer communities
      - Larger communities
      - A relatively narrow geography
    - Southcentral region and Kodiak only by 10-year Review
      - Anchorage/Wasilla (Anchorage MSA), Homer/Seldovia (KPB), Kodiak (KIB)
    - No community where all CVs have left has regained CVs
  - Distribution of CVs across all Geographies (2016-2022 averages)
    - AK 27%, WA 59%, OR 12%, Other 2%



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## Program Objective: Address the social and economic concerns of communities (continued)

- Distribution of CVO, CVC, CPO, and CPC Quota Shares
  - Notable shifts since initial allocations (Table 8-14)
    - Away from WA and toward AK in all categories
    - Within AK, by 2022 CDQ and Tribal ownership accounted for more than half of AK held CVO QS (57%) and CPO QS (62%)
    - Among other AK communities:
      - Kodiak and Anchorage gained in all QS holdings categories
      - Homer gained in CVC and CPC QS holdings
      - Wasilla, Kenai, and Unalaska gained in CVO QS holdings
      - Sand Point CVO QS holdings were unchanged
      - All other AK communities w/initial allocation lost some or all QS holdings



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## Program Objective: Address the social and economic concerns of communities (continued)

- Distribution of Processors (Table 8-16)
  - Trend of decline in number of processors over time
  - Number of engaged shore-based processors stable 2016-2022 in Unalaska/Dutch Harbor, Akutan, King Cove, and St. Paul except for one fewer processor in Unalaska/DH in 2022.
  - Number of shore-based processors engaged in CR Program fisheries varied from zero to two in Kodiak and Adak 2016-2022.
  - Inshore Stationary Floating Processors all but disappeared from the relevant fisheries 2016-2022 except for one operating off St. Paul in 2020 (during Covid) and in 2022.



# Program Objective: Address the social and economic concerns of communities (continued)

- **ROFR and Movement of PQS Between Communities**

- 9 Eligible Crab Communities (ECCs)
- 5 ECC Entities
  - 2 CDQ groups
  - 3 other non-profits

Eligible Crab Community	CR Program ROFR Governing Body	CR ROFR Eligible Crab Community Entity*
Adak	None**	None**
Akutan	APICDA	APICDA
False Pass	APICDA	APICDA
King Cove	City of King Cove and Aleutians East Borough	Aleutia, Inc.
Kodiak	City of Kodiak and Kodiak Island Borough	Kodiak Fishery Development Association
Port Moller	Aleutians East Borough	Aleutia, Inc.
Saint George	APICDA	APICDA
Saint Paul	CBSFA	CBSFA
Unalalaska/Dutch Harbor	City of Unalaska	Unalaska Crab, Inc.



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Program Objective: Address the social and economic concerns of communities (continued)

- **ROFR and Movement of PQS Between Communities (cont.)**
  - PQS has moved between communities through intra-company transfers
  - Some ECCEs have acquired ownership or control over PQS due to:
    - Some processors hitting ownership or use caps due to changes in corporate structures, which has forced divestitures of PQS
    - Some processors making business decisions to sell PQS



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Program Objective: Address the social and economic concerns of communities (continued)

- **ROFR and Movement of PQS Between Communities (cont.)**
  - The formal ROFR process has never been triggered
  - The existence of the ROFR process has facilitated ECCEs reaching PQS acquisition agreements
    - Both ECCEs that are CDQ groups have acquired and still retain all PQS they have acquired
    - Of the ECCEs that are not CDQ groups:
      - One has acquired PQS and subsequently sold all PQS acquired (Aleutia)
      - One has acquired PQS and has retained it (KFDA)
      - One has waived a ROFR opportunity and has never acquired PQS (Unalaska Crab, Inc.)





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Program Objective: Address the social and economic concerns of communities (continued)

- **ROFR and Movement of PQS Between Communities (cont.)**
  - All PQS has left all EECs where qualifying processing history was earned exclusively through Inshore Stationary Floating Processor operations:
    - Saint George
    - False Pass
    - Port Moller
  - Some PQS has left Unalaska/Dutch Harbor through required divestitures, a waiver of ROFR rights, and sale of PQS based on business decision-making.



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Program Objective: Address the social and economic concerns of communities (continued)

- **ROFR and Movement of PQS Between Communities (cont.)**
  - No PQS to date has left the following ECCs due to either no change in PQS ownership or acquisition by ECCEs that have retained PQS in the community:
    - St. Paul
    - Akutan
    - King Cove
    - Kodiak
  - Adak is the only ECC that was not provided ROFR but it has benefitted from other community and regional protection measures
    - A direct WAG allocation
    - A West regional designation for WAG landings/processing



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Program Objective: Address the social and economic concerns of communities (continued)

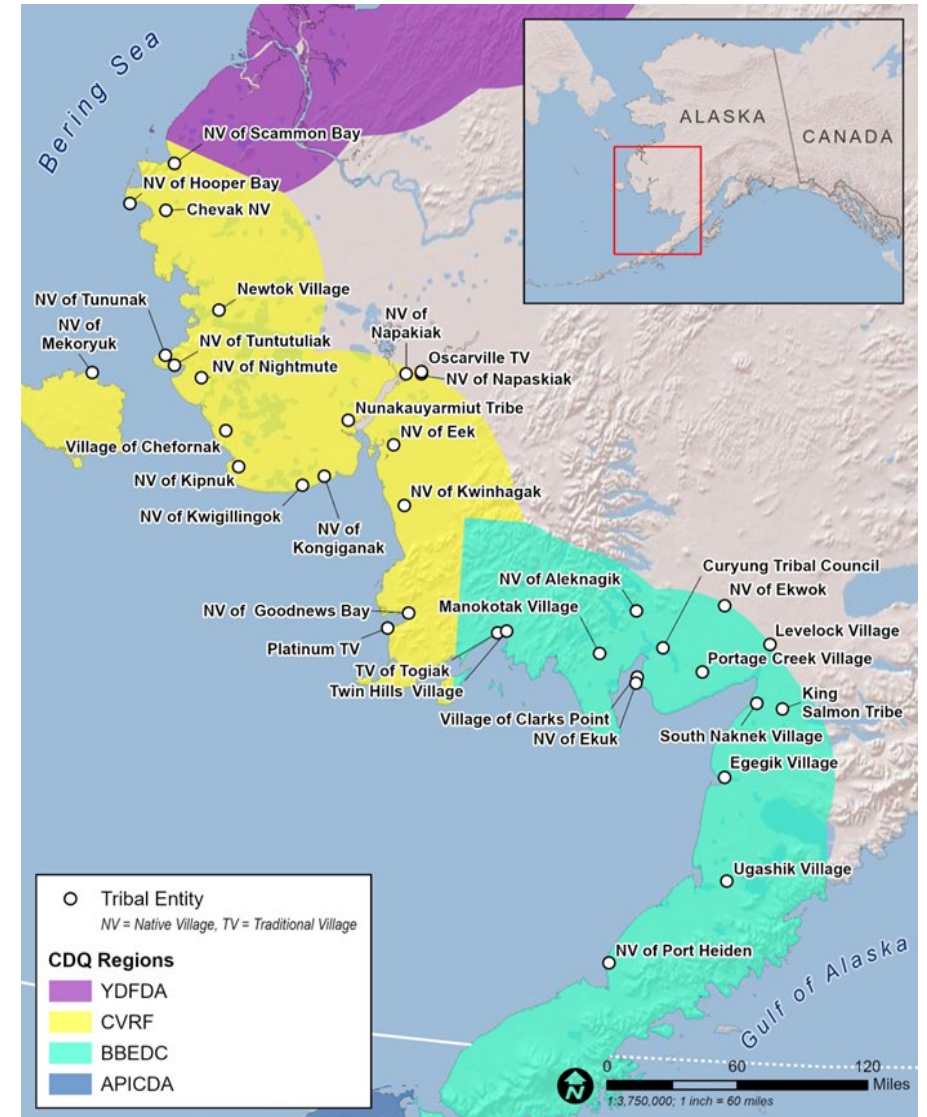
- **CDQ and Adak Allocations**

- CDQ allocations increased from 7.5% to 10% in all CR Program fisheries except WAG (which does not have a CDQ allocation)
- Adak received a 10% allocation in the WAG fishery.
  - The Adak allocation alone and in combination with other West region-specific community protection measures has not reached its full potential to help foster sustained participation of Adak in the CR Program fisheries due to multiple factors, including intermittent operations of the local shore-based processor and multiple processing operations ownership changes.



Program Objective: Address the social and economic concerns of communities (continued)

- **Tribal Participation in the CR Program Fisheries**
  - In 2021, 35 western Alaska Tribal entities gained ownership interest in multiple LLCs that, in turn, own CR Program CVO QS.
  - This marks the first entry of Tribal entity ownership interest in the CR Program fisheries.



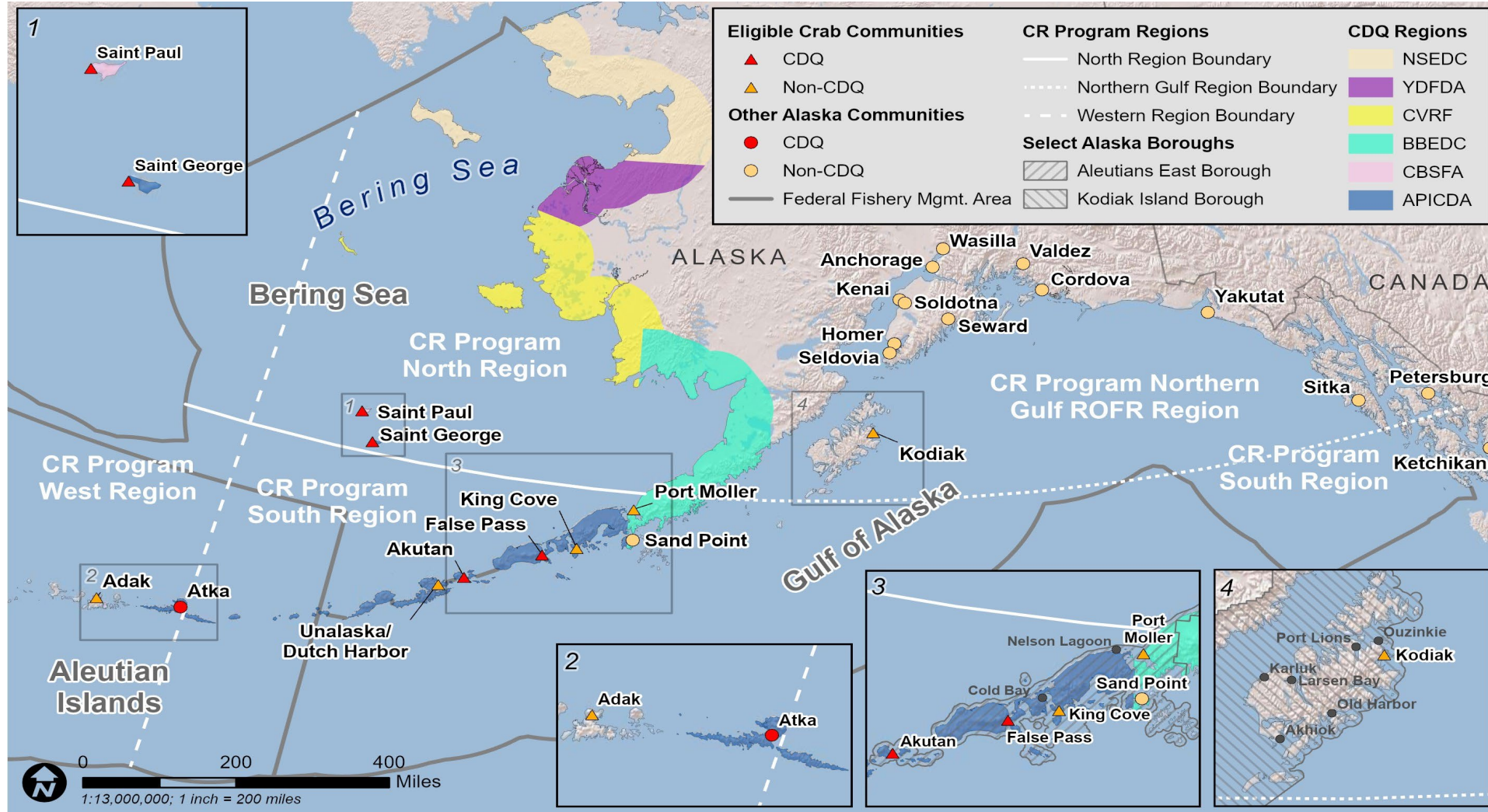
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Program Objective: Address the social and economic concerns of communities (continued)

- **Regionalization**

- The creation of a North landings/processing region has helped to provide for the sustained participation of St. Paul in the CR Program fishery. (*Note errata re: emergency relief statement.*)
  - It has also indirectly helped to foster the sustained participation of the St. Paul (and St. George) small boat fleet in the halibut fishery.
- The creation of a West landings/processing region has helped Adak work toward the sustained participation of the community in the WAG fishery, especially in combination with the Adak Allocation, but its efficacy has been limited to date.





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Program Objective: Address the social and economic concerns of communities (continued)

- **BSAI Crab Fishing Communities Context**
  - Incorporation by reference of extensive community characterizations that have been informed by ethnographic fieldwork.
  - Incorporation of community attribute characterizations that have been featured in recent Council SIAs
    - Community institutional summaries
    - Community demographic summaries



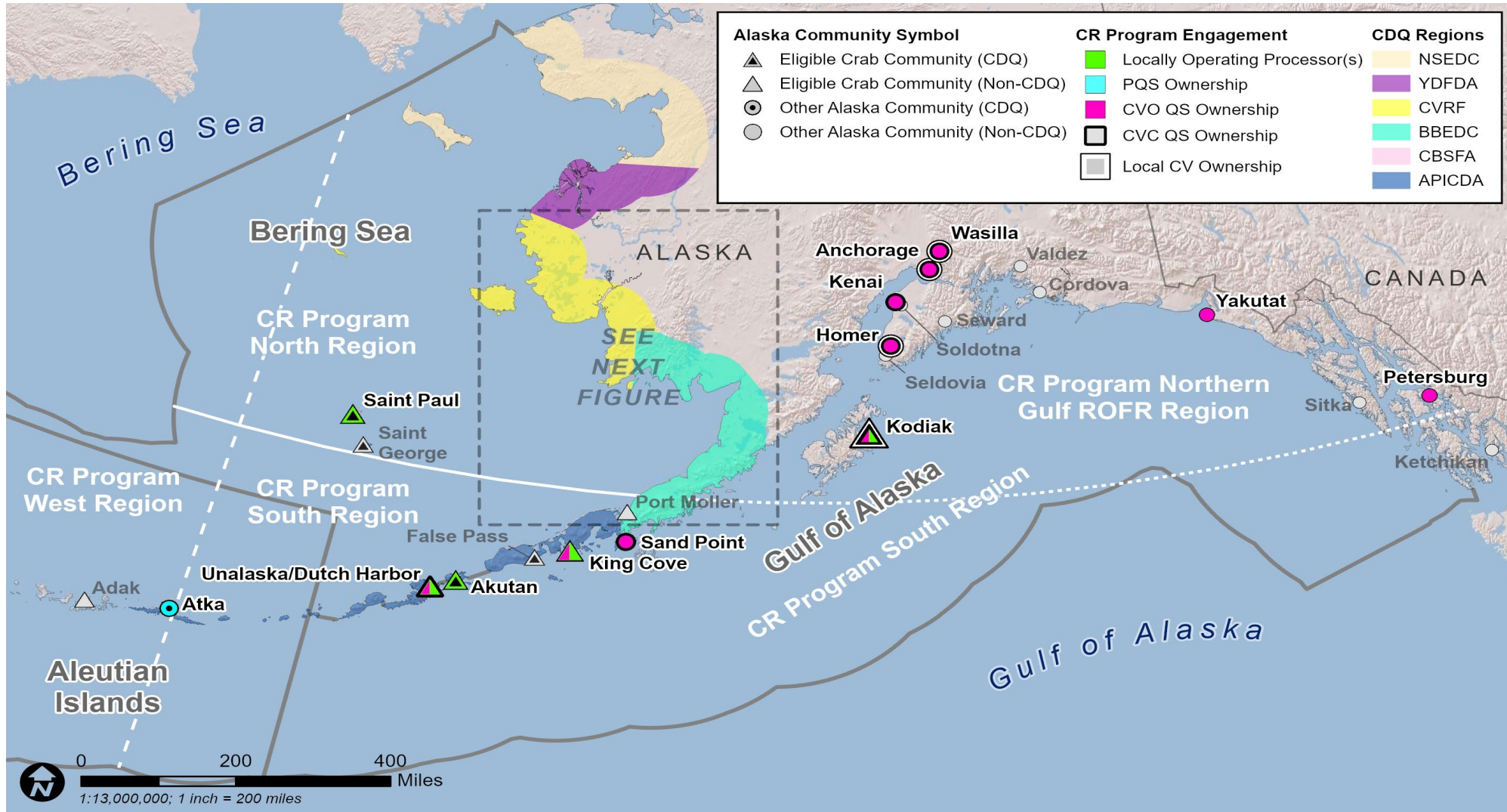
# Program Objective: Address the social and economic concerns of communities (continued)

- 2022 engagement snapshot
  - ECC/Other Communities
  - Tabular information
  - Mapping incl, Regionalization
- Highlight Changes from:
  - CR Program Implementation
  - CR Program Initial Allocations
- For:
  - Local CVs
  - Local Processing
  - QS Holdings
    - CVO and CVC
    - CPO and CPC



Community	Local Ownership Address Active Catcher Vessels	Local Operating Active Processors	Local Ownership Address CVO Shares	Local Ownership Address CVC Shares	Local Ownership Address CPO Shares	Local Ownership Address CPC Shares
Kodiak	Continuous Pre- and Post-Rationalization Decline in Number 2016-2022	Continuous Pre- and Post-Rationalization Decline in Number 2016-2022	Gain in Number of QS Units Since Initial Allocations	Gain in Number of QS Units Since Initial Allocations	Gain in Number of QS Units Since Initial Allocations	Gain in Number of QS Units Since Initial Allocations
Unalaska/ Dutch Harbor	Pre-Rationalization & First 3 CR Years or Less	Continuous Pre- and Post-Rationalization Decline in Number 2016-2022	Gain in Number of QS Units Since Initial Allocations	Decline in Number of QS Units Since Initial Allocations	None	None
King Cove	Pre-Rationalization & First 3 CR Years or Less	Continuous Pre- and Post-Rationalization Stable Number (1) 2016-2022	Decline in Number of QS Units Since Initial Allocations	Loss of All QS Units Since Initial Allocations	None	None
Akutan	Pre-Rationalization Only	Continuous Pre- and Post-Rationalization Stable Number (1) 2016-2022	None	None	None	None
St. Paul	None	Continuous Pre- and Post-Rationalization Stable Number (1) 2016-2022	None	None	None	None
Adak	None	Intermittent Operating Most Years Pre- and Post-Rationalization	None	None	None	None
False Pass	None	Pre-Rationalization (on ISFP) Only	None	None	None	None
Port Moller	None	Pre-Rationalization (on ISFP) Only	None	None	None	None
St. George	None	Pre-Rationalization (on ISFP) Only	None	None	None	None
Sand Point	Pre-Rationalization Only	Pre-Rationalization Only	Stable Number of QS Units Since Initial Allocations	Decline in Number of QS Units Since Initial Allocations	None	None





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## Program Objective: Address the social and economic concerns of communities (continued)

- Other social and community considerations
  - Employment, income, and resource fluctuations
    - Employment pluralism strategies
    - Income pluralism strategies
    - Diversification strategies
  - Profound levels of uncertainty not experienced in the CR

### Program era

- King Cove
- Akutan
- St. Paul



# National Standards Summary

- NS 1 Optimum Yield: TACs have been fully harvested in most fisheries and years. Allocation to individuals/cooperatives and the associated accountability have allowed fisheries with low TACs to open to directed fishing when they would have remained closed under the pre-CR Program management structure.



## National Standards Summary

NS 2 Scientific Information: Sections 4 and 9 describe the management of the program and how the best scientific information is collected and used to manage the CR Program fisheries. Scientific information is collected through EDRs, fishtickets, logbooks, the observer program, and collaborative efforts with industry. Some of the collaborative programs were funded by industry and would likely not have been undertaken if not for the CR Program. Current economic conditions in the fishery are limiting some of these industry funded studies.



# National Standards Summary

NS 3 Management Units: Individual stocks of fish are managed as a unit throughout its range, and interrelated stocks are managed as a unit or in close coordination as described in Section 4 and through the allocation of QS based on TACs established for each fishery.



## National Standards Summary

NS 4 Allocations: QS were allocated for nine fisheries based on historic participation of harvesters, processors, and crew without discriminating between residents of different states. As described in previous CR Program reviews, allocations were fair and equitable, reasonably calculated to promote conservation, and included ownership and use caps to ensure that no individual, corporation, or other entity acquires an excessive share. Use caps have been modified to account for changing fishery conditions. For example, vessel use caps in cooperatives and custom processing crab have been liberalized.



## National Standards Summary

NS 5 Efficiency: While efficiency was not the sole purpose of the program, it has allowed harvesters and processors to scale annual production capacity to better align with the available TAC. That ability has been important in recent years when low TACs (and closed fisheries) have reduced the amount of harvesting and processing capacity needed to efficiently utilize the resource.



# National Standards Summary

NS 6 Variations and Contingencies: This NS addresses changes and how they are addressed based on conditions that arise from biological, social, and economic occurrences, as well as from fishing practices. Section 2.3.14 describes all the amendments that have been made and many that have been considered by Federal and State of Alaska management agencies. That section highlights changes that have been made when circumstances in the fishery change substantially, or when a different management philosophy and objectives are defined.





## National Standards Summary

NS 7 Costs and Benefits: Current fishery and market conditions have resulted in difficult economic times for harvesters, processors, crew, and communities that rely on the CR Program crab fisheries. While a formal cost benefit analysis was not undertaken, the CR Program provided benefits to harvesters and processors by allowing fisheries to be opened under small TACs, providing stakeholders the ability to better scale production inputs to current conditions. However, many of the current economic conditions are impacted more by factors outside the control of the program than by elements of the CR Program itself (see Section 3).



# National Standards Summary

NS 8 Communities: Requires that management measures provide for the sustained participation of fishing communities and to the extent practicable minimize adverse economic impacts to such communities. Initial QS allocations were based on qualifying history of substantial engagement in or dependence on the CR Program fisheries and multiple CR Program features were designed as, or have served to function as, fishing community protection measures, including regionalization, ROFR for Eligible Crab Communities, CDQ and Adak allocations, and ownership and use caps. As noted in Section 8, outcomes have varied for differently situated communities, due to the consolidation of the CV fleet, consolidation of processing, movement of PQS between communities via intra-company transfer within a region, and differential patterns of CVO/CPO and CVC/CPC QS ownership among communities, among other factors. In general, percentage of QS holdings have shifted in varying degrees away from Washington and toward Alaska and within Alaska toward fewer and larger fishing communities, CDQ groups, and, most recently, western Alaska Tribal entities.



## National Standards Summary

NS 9 Bycatch: Requires that programs minimize bycatch and to the extent bycatch cannot be avoided, minimize the mortality of such bycatch. Sections 4.6 through 4.10 describe issues associated with highgrading and discards, rail dumping, handling mortality, soak times and gear selectivity, and ghost fishing. Highgrading has increased as harvesters attempt to keep only crabs that have the highest value. The program has provided benefits in terms of better handling practices, less need for rail dumping, longer soak time to fish more selectively, and fewer lost pots. Fewer lost pots are reported because of changing fishing practices. Improvements in biodegradable escape panels are attempts to reduce bycatch and mortality.



# National Standards Summary

NS 10 Safety of Life at Sea: The fishery has shown a clear improvement in safety of life at seas. It has gone from one of the deadliest fisheries, pre-CR Program, to no fatalities attributed to the crab fishery since the last CR Program review (see Section 11).



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