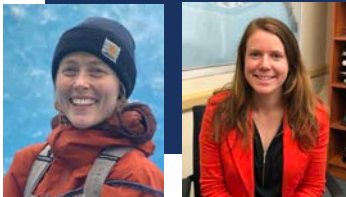


C1 RED KING CRAB SAVINGS AREA CLOSURE

KELLY CATES AND SARAH MARRINAN
DECEMBER 2022



REQUEST FOR EMERGENCY CLOSURE

- Alaska Bering Sea Crabbers requested emergency action in September 2022 to close the RKCSA and RKCSS to all fishing gears from January 1, 2023 to June 30, 2023 to protect BBRKC and their habitat at a time of historically low crab abundance.
- The aim of the petition is to protect BBRKC and their habitat from fishing impacts in an area known to be important for the stock at a critical period in the crab life cycle.



EMERGENCY RULE POLICY AND CRITERIA

- Under NMFS' Policy Guidelines for the Use of Emergency Rules, the phrase “an emergency exists involving any fishery” is defined as a situation that meets the following three criteria:
 1. Results from recent, unforeseen events or recently discovered circumstances;
 2. Presents serious conservation or management problems in the fishery; and
 3. Can be addressed through emergency regulations for which the immediate benefits outweigh the value of advance notice, public comment, and deliberative consideration of the impacts on participants to the same extent as would be expected under the normal rulemaking process.



EMERGENCY RULE POLICY AND CRITERIA

General Guidance for Use of Emergency Rules

- Emergency actions should be limited to urgent circumstances where substantial harm to or disruption of the resource, fishery, or community would be caused in the time it would take to follow standard rulemaking procedures.
- An emergency action may not be based on administrative inaction to solve a long-recognized problem.
- In order to approve an emergency rule, the Secretary must have an administrative record justifying emergency regulatory action and demonstrating compliance with the national standards.
- The only legal prerequisite for the use of the Secretary's emergency authority is that an emergency must exist.



EVALUATING EMERGENCY RULE CRITERIA

- NMFS requested that the Council weigh in on the emergency rule request and at the October 2022 Council meeting, the following motion was made:
 - The Council identifies the Bristol Bay red king crab and snow crab stocks as a priority conservation concern and takes the following actions at this time.
 - 1. The Council will review an analysis of the emergency rule request to prohibit pelagic trawl, pot and hook-and-line fisheries in the Red King Crab Savings Area and Subarea at the December 2022 meeting. This analysis could be used as a basis to initiate a regulatory amendment in December through the normal rule making process to close the savings area and subarea to some or all gear types.
- The analysis and this presentation serve to outline information relevant in considering each of the three criteria. The Secretary will make a final determination as to whether an emergency exists after receiving public comment on the notice of receipt of petition (87 FR 65183, October 28, 2022) and receiving input from the Council and the public at the this Council meeting.



MANAGEMENT AND AFFECTED SECTORS

- NMFS has the authority to close the RKCSA/SS to all federal groundfish fisheries if warranted by the emergency provisions of section 305(c) of the Magnuson-Stevens Act, as well as any fisheries that are under delegated State management, such as the Bering Sea Tanner crab fishery.
- Affected sectors are:
 - Pot (POT) vessels (i.e. Pacific cod pot CVs equal to and greater than 60 ft and Pacific cod pot CPs)
 - Hook-and-line (HAL) vessels (i.e., the Freezer Longline fleet)
 - Pelagic trawl (PTR) vessels (i.e. AFA pollock fleet)
 - Non-pelagic trawl (NPT) vessels (i.e. Amendment 80 fleet & TLAS)
 - Eastern Tanner Crab Fishery
 - BBRKC Fishery



OUTLINE OF PRESENTATION

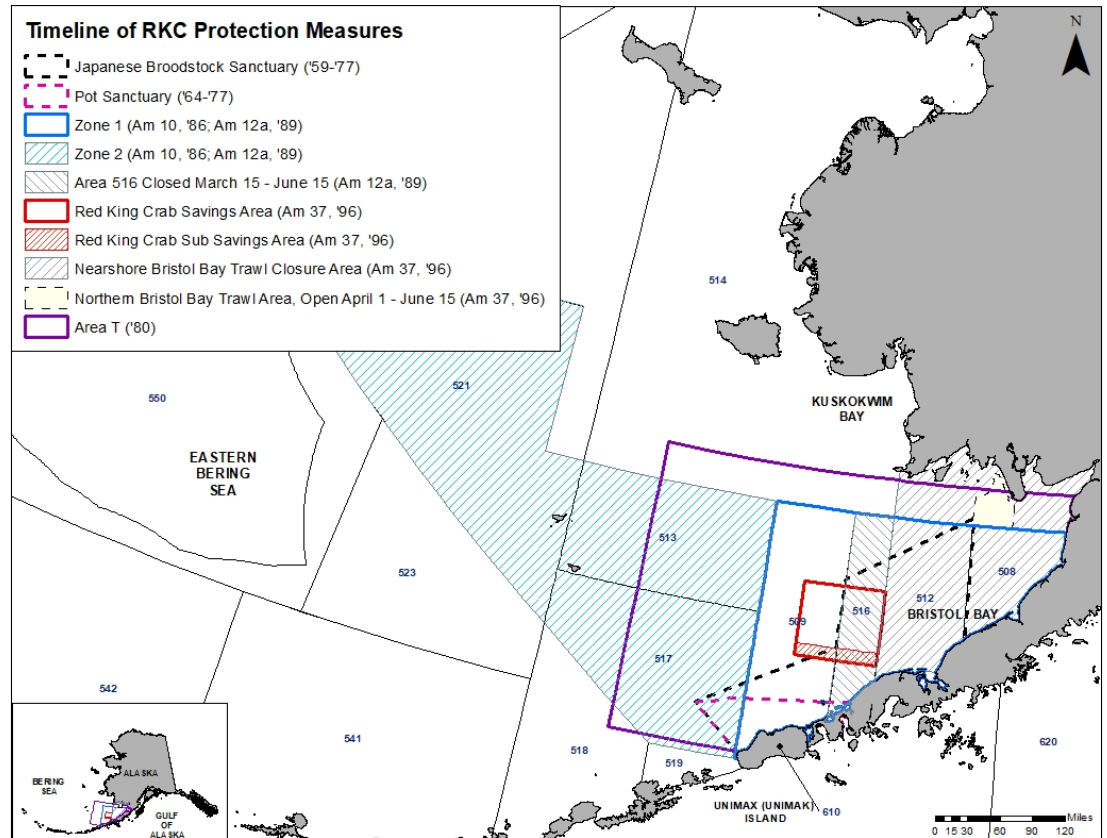
- Brief history of RKC protection areas
- Intent of RKCSA
- Pertinent RKC biomass, location and biology
- Groundfish catch, PSC and effort
- Bottom contact
- Economic and operational considerations for affected fishing sectors
- Summary
- Evaluating the emergency rule criteria



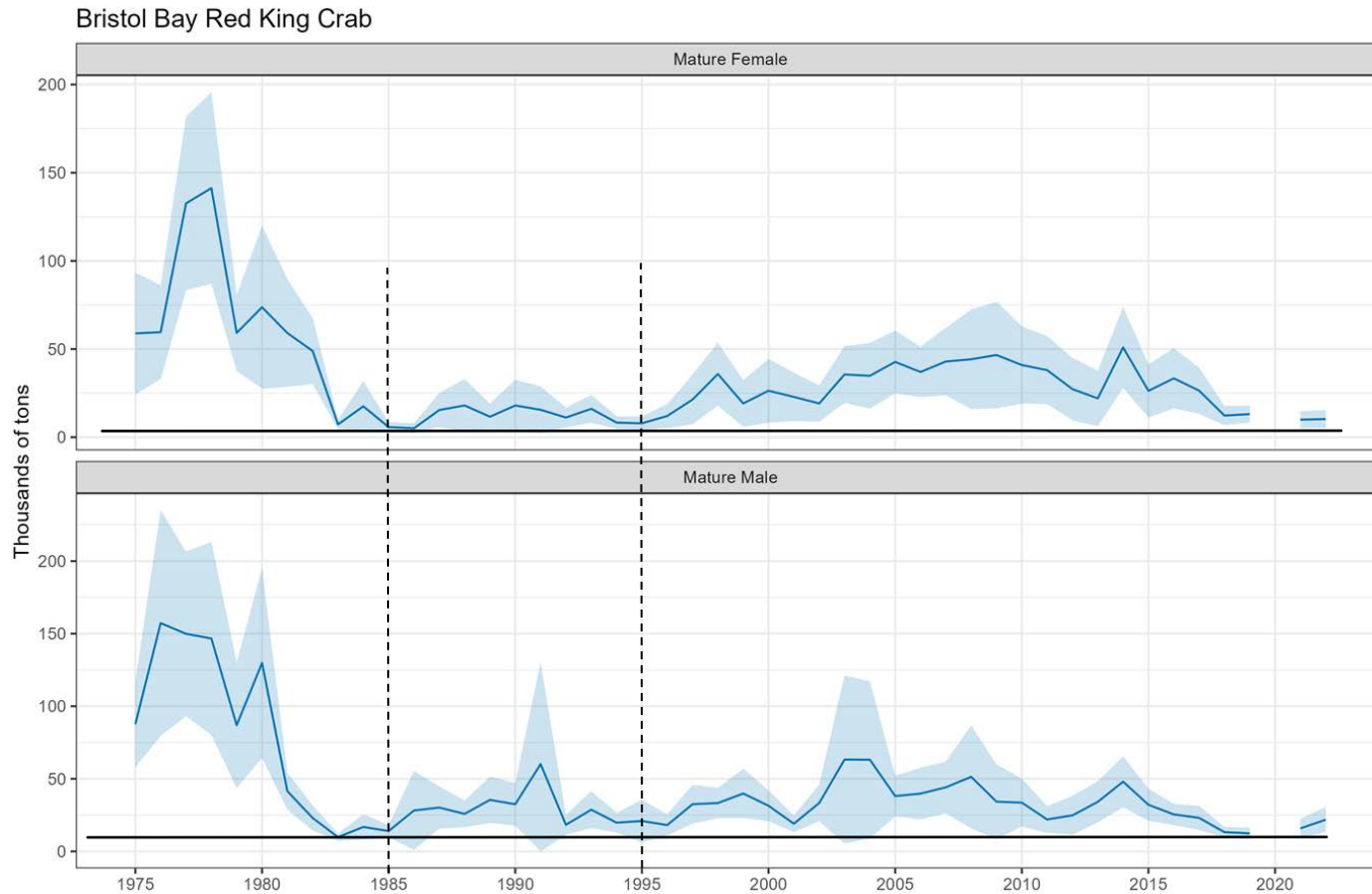
RKCSA AND OTHER CRAB PROTECTION AREAS

Protection Areas Established:

- Japanese Broodstock (1959)
- Pot Sanctuary (1964)
- Zone 1 & 2 (1986/1989)
- RKCSA (1994-96)

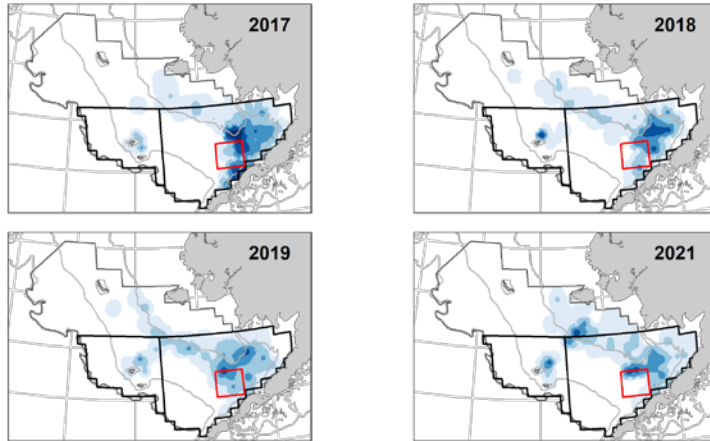


BBRKC ABUNDANCE

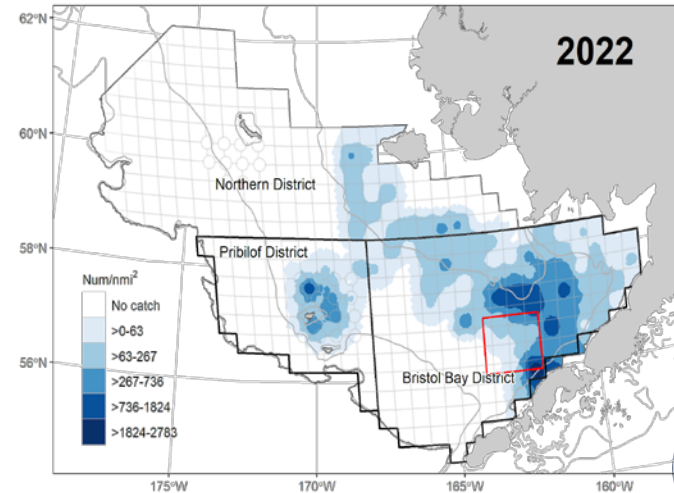
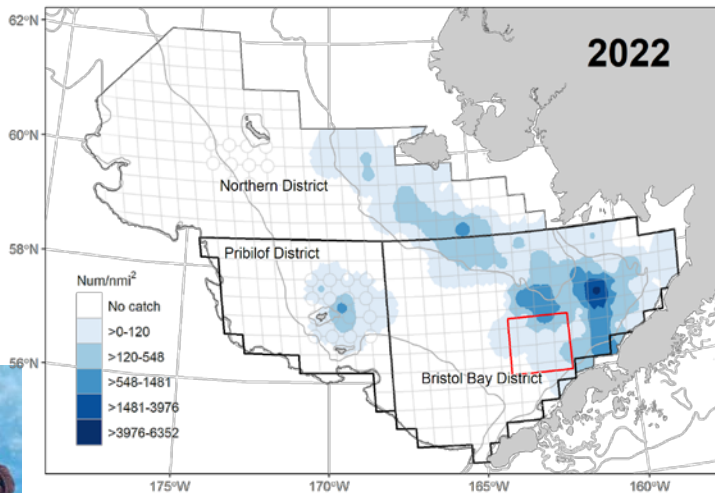
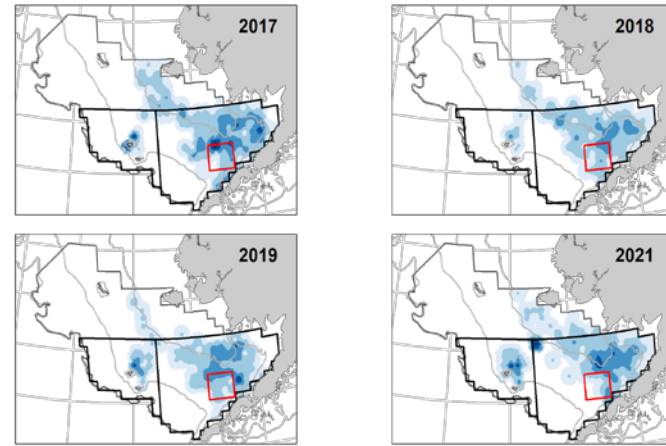


BBRKC DISTRIBUTION: SUMMER

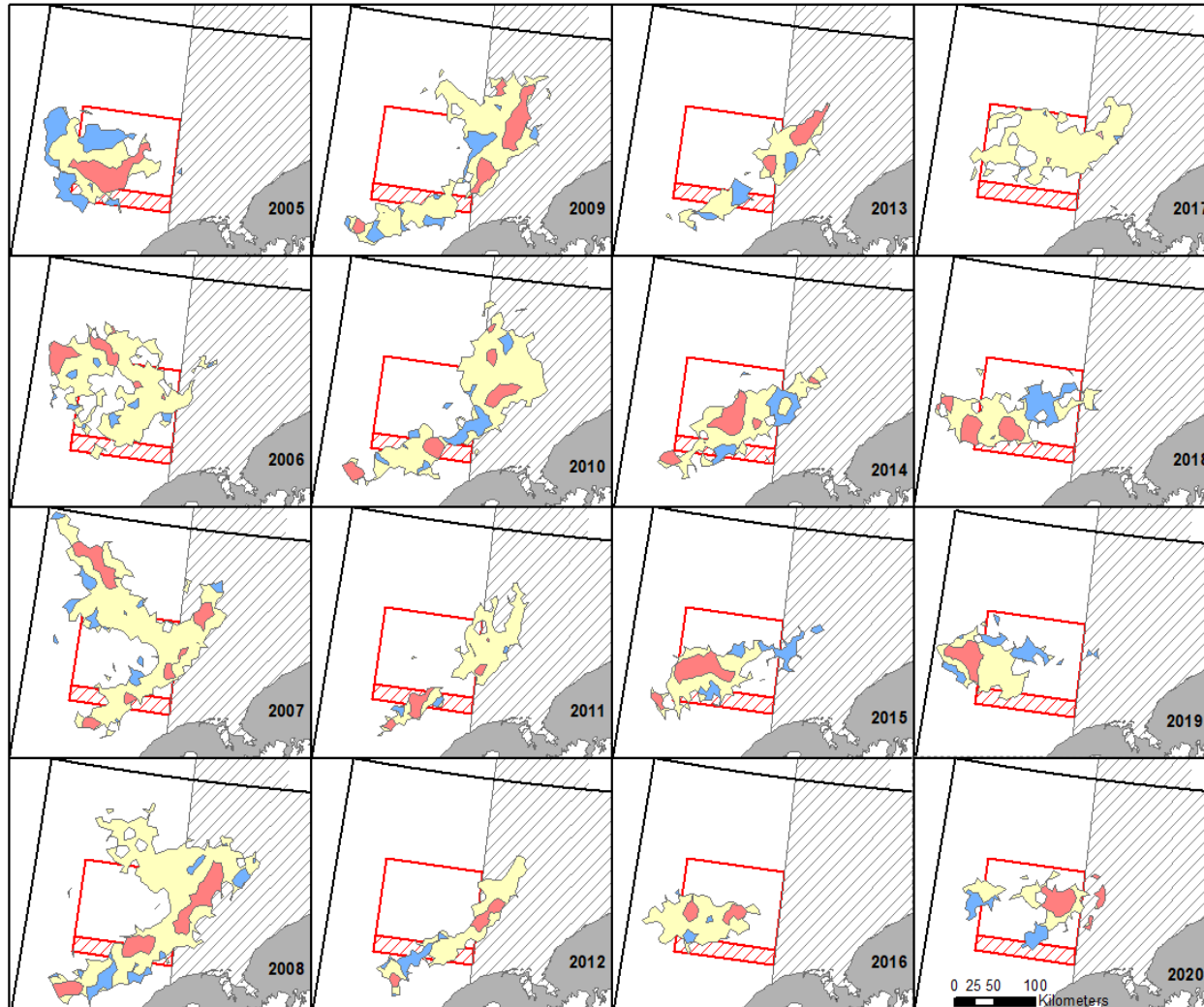
Red King Crab Mature Female



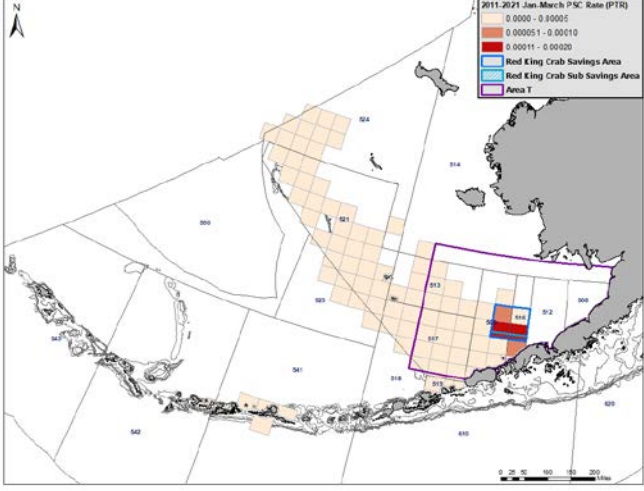
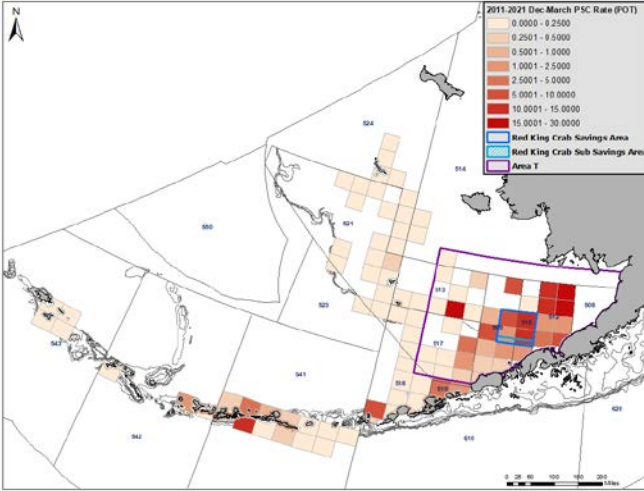
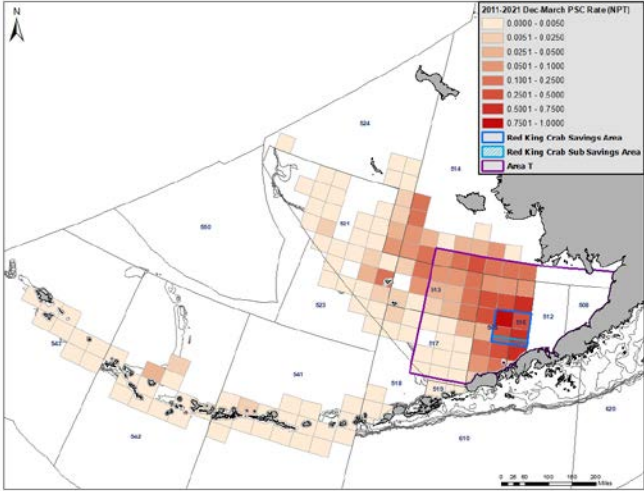
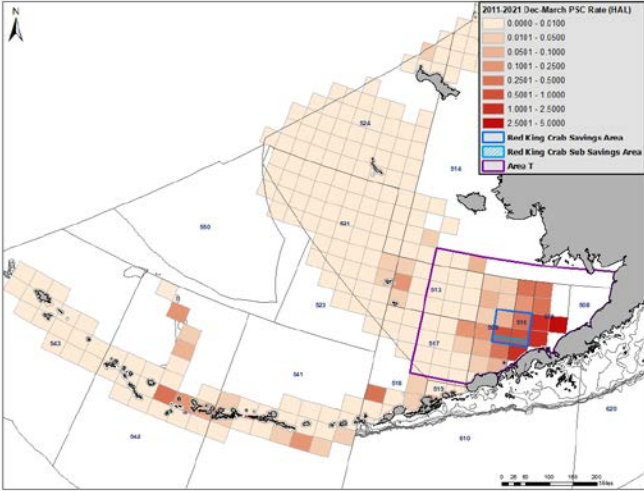
Red King Crab Mature Male



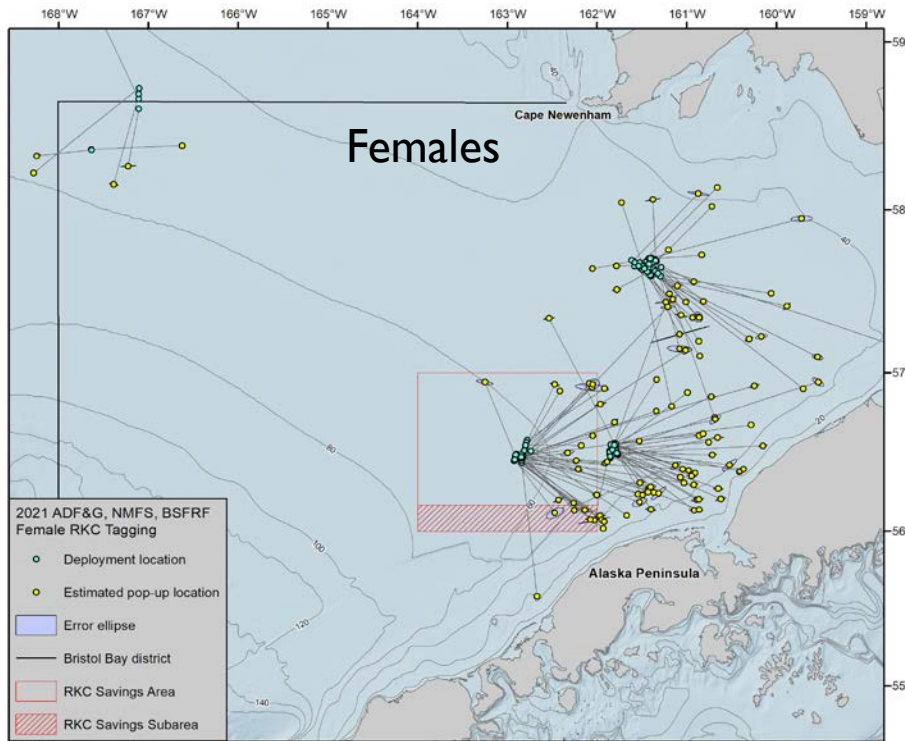
BBRKC DISTRIBUTION: FALL



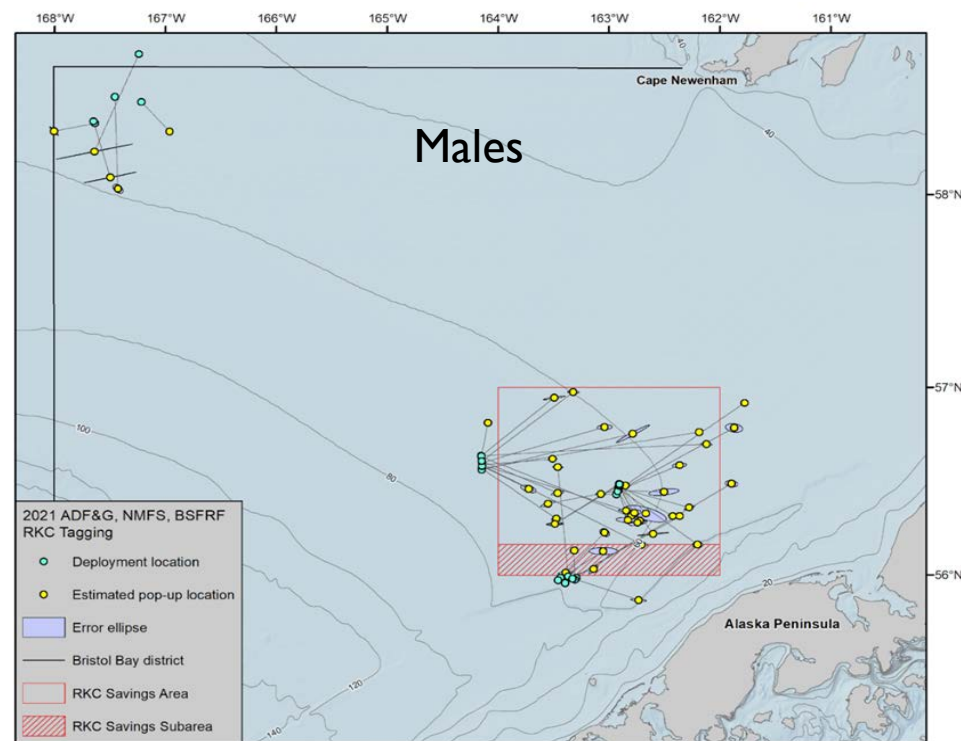
BBRKC DISTRIBUTION: WINTER



BBRKC DISTRIBUTION: SPRING



Tagged in November, tags released in April/May



Tagged in November, tags released in January



MATING AND MOLTING

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BBRKC Female Mating/Molting	█	█	█	█	█	█						
BBRKC Male Mating/Molting	█	█	█									
AFSC Trawl Survey					█	█	█	█				
Directed BBRKC Fishery	█									█	█	█
Pelagic Trawl Pollock Fishery	█	█	A Season	█	█	█	█	█	B Season	█		
Amendment 80 Fishery	█	█	█	█	█	█	█	█	█	█	█	█
Pot Cod >= 60ft	█	█	A Season	█	█	█	█		B Season	█	█	█
HAL & Pot Cod < 60ft	█	█	█	█	█	█	█	█	█	█	█	█
HAL Cod >=60ft	█	█	A Season	█	█	█	█	█	B Season	█	█	█



GROUNDFISH CATCH AND PSC

Table 4.2 Groundfish catch (mt) by gear type and area (entire BS, RKCSA/SS), and season – 2013-2022 (*2022 YTD 10/21)

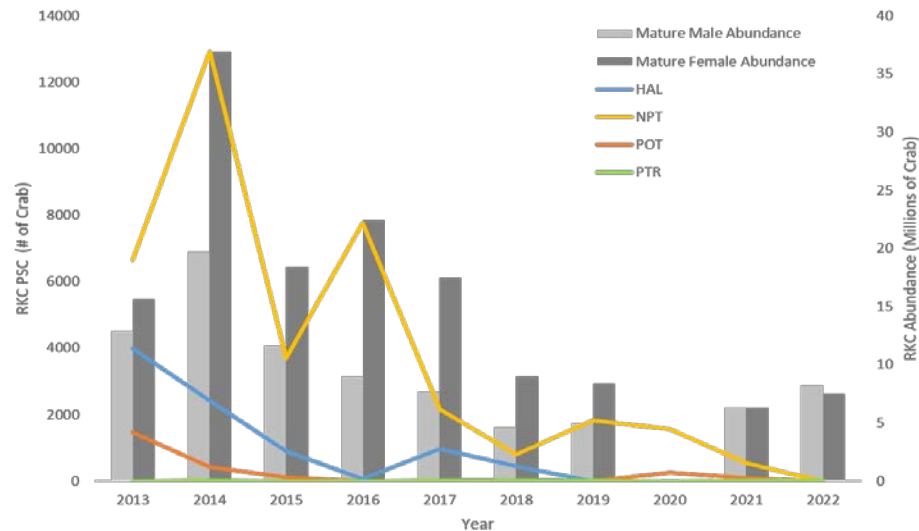
		Groundfish Catch	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	Jan-May	BS	80,600	78,383	75,719	78,932	78,696	63,353	56,614	50,124	36,988	45,307	64,472
		RCKSA %	9%	3%	1%	0%	2%	2%	0%	0%	0%	0%	0%
	Jun-Dec	BS	75,976	84,008	91,997	88,319	86,286	74,400	57,493	45,654	38,218	47,774	69,013
		RCKSA %	5%	1%	0%	1%	3%	8%	0%	0%	0%	0%	1%
	Total	BS	156,576	162,391	167,716	167,251	164,982	137,753	114,108	95,778	75,206	93,081	133,484
		RCKSA %	7%	2%	1%	1%	3%	5%	0%	0%	0%	0%	1%
NPT	Jan-May	BS	220,490	226,432	177,914	193,910	179,356	182,938	185,182	192,251	147,298	172,658	187,843
		RCKSA %	9%	10%	6%	8%	4%	1%	1%	1%	1%	0%	4%
	Jun-Dec	BS	175,069	161,028	136,835	140,299	131,588	130,292	113,947	108,033	93,403	112,392	130,289
		RCKSA %	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	BS	395,559	387,461	314,749	334,208	310,944	313,229	299,129	300,284	240,701	285,049	318,131
		RCKSA %	5%	6%	3%	5%	2%	1%	1%	1%	0%	0%	2%
POT	Jan-May	BS	21,342	29,989	28,336	37,109	35,285	29,819	27,646	24,438	21,215	30,049	28,523
		RCKSA %	6%	2%	0%	0%	0%	0%	0%	5%	1%	0%	1%
	Jun-Dec	BS	10,004	10,439	10,665	11,124	11,793	10,925	14,789	8,874	5,352	9,600	10,357
		RCKSA %	19%	24%	27%	8%	4%	4%	4%	0%	0%	0%	9%
	Total	BS	31,346	40,428	39,001	48,233	47,078	40,744	42,435	33,312	26,567	39,648	38,879
		RCKSA %	10%	7%	7%	2%	1%	1%	1%	4%	0%	0%	3%
PTR	Jan-May	BS	505,804	503,038	511,554	522,019	570,185	587,820	602,363	578,913	466,884	354,417	520,300
		RCKSA %	1%	9%	7%	3%	14%	14%	15%	3%	16%	28%	11%
	Jun-Dec	BS	742,372	754,162	783,123	796,512	762,533	758,593	781,613	666,034	585,455	441,062	707,146
		RCKSA %	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
	Total	BS	1,248,176	1,257,200	1,294,677	1,318,531	1,332,718	1,346,413	1,383,976	1,244,946	1,052,338	795,479	1,227,445
		RCKSA %	0%	4%	3%	3%	6%	6%	7%	2%	7%	12%	5%
ALL GEAR	Total	BS	1,831,657	1,847,480	1,816,143	1,868,223	1,855,722	1,838,139	1,839,648	1,674,320	1,394,812	1,213,258	1,717,940
		RCKSA %	2%	4%	3%	3%	5%	5%	5%	1%	5%	8%	4%



GROUNDFISH CATCH AND PSC

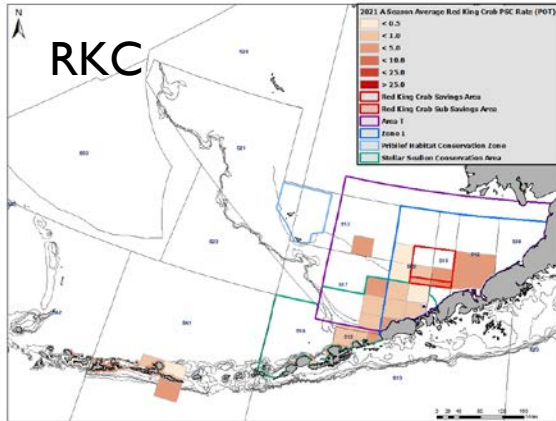
Table 4.5 Red King Crab PSC (# of animals) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
2013	3,982	1,470	5,452	6,649	172	6,821	1,458	4,822	6,280	0	0	0	12,089	6,464	18,553
2014	2,414	1,759	4,173	12,922	57	12,979	414	17,205	17,619	7	0	7	15,756	19,021	34,777
2015	889	117	1,006	3,704	0	3,704	105	61,108	61,213	0	0	0	4,698	61,225	65,923
2016	65	3,831	3,896	7,762	400	8,163	0	14,514	14,514	0	2	2	7,828	18,747	26,574
2017	971	4,556	5,527	2,160	125	2,285	0	384	384	20	0	20	3,151	5,065	8,216
2018	448	8,732	9,180	790	6	796	0	12,516	12,516	5	0	5	1,243	21,253	22,497
2019	0	0	0	1,814	76	1,890	0	953	953	23	0	23	1,837	1,029	2,866
2020	0	2	2	1,552	635	2,187	249	0	249	3	0	3	1,803	637	2,440
2021	0	0	0	533	0	533	97	0	97	18	0	18	647	0	647
2022	0	124	124	0	0	0	0	0	0	7	0	7	7	124	131
Average	877	2,059	2,936	3,789	147	3,936	232	11,150	11,382	8	0	8	4,906	13,357	18,263

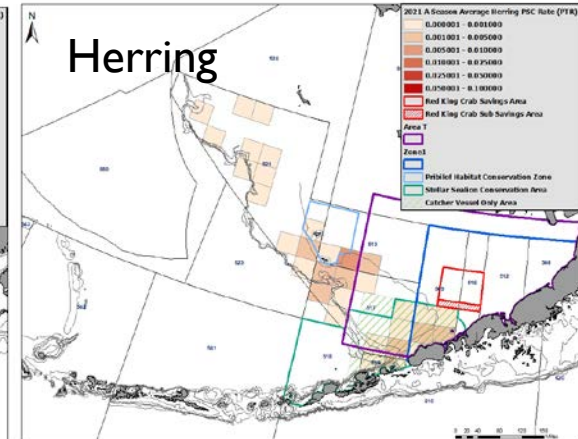
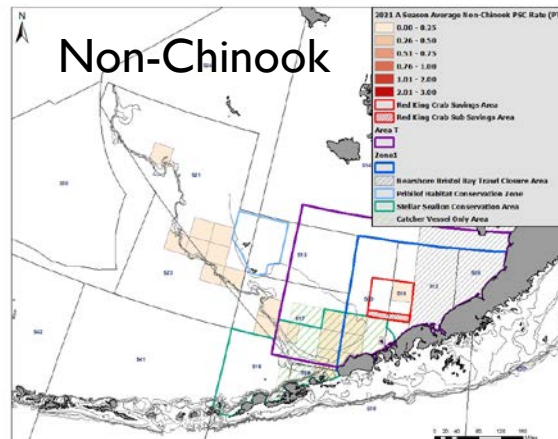
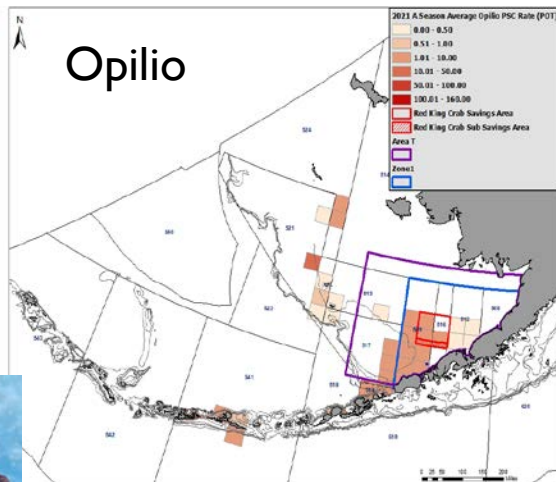
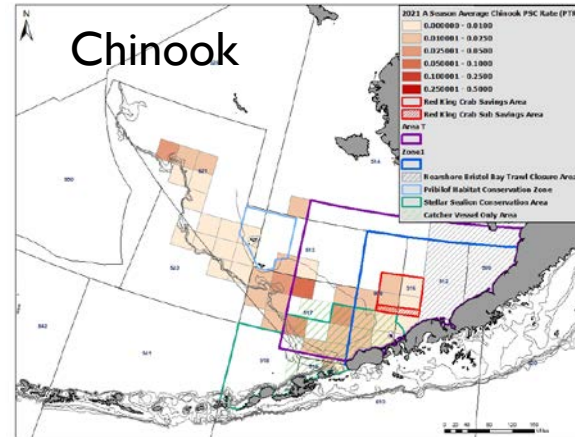


GROUNDFISH CATCH AND PSC

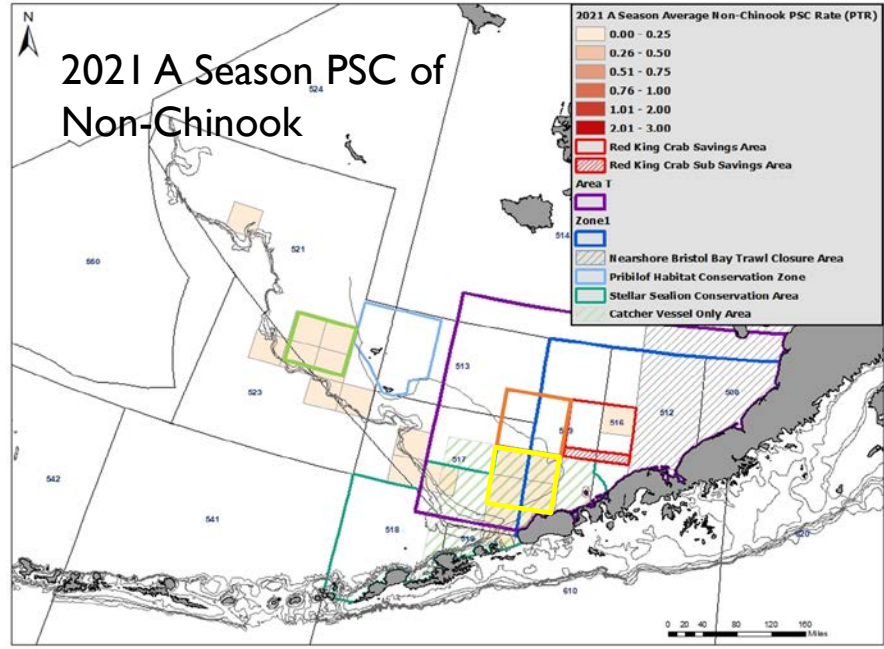
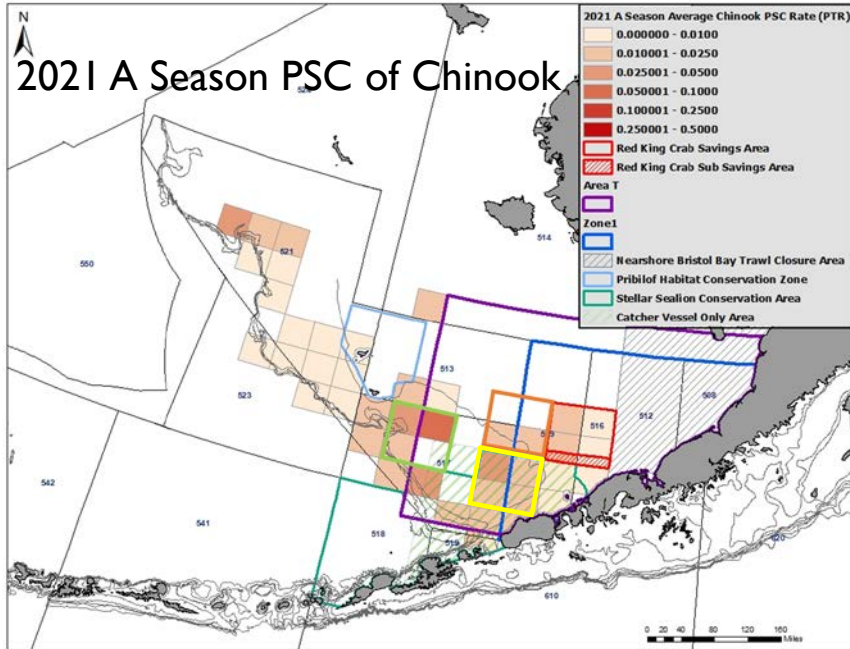
POT Gear PSC 2021 A Season



PTR Gear PSC 2021 A Season



PSC SCENARIOS: PTR AND SALMON

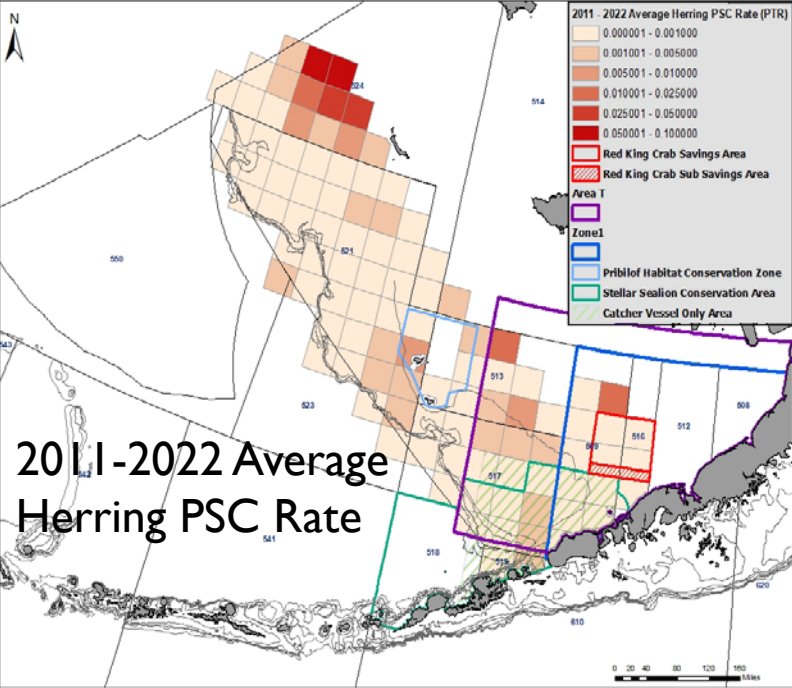


	Actual Chinook PSC (# of fish)	Sum GF Weight	Rate	Est. Increase in Chinook PSC
RKCSA/SS	562	74,913	0.008	
Adjacent	105	9,217	0.011	291
High Area	2,200	88,115	0.025	1,308
High Area in SCA	3,843	184,263	0.021	1,000

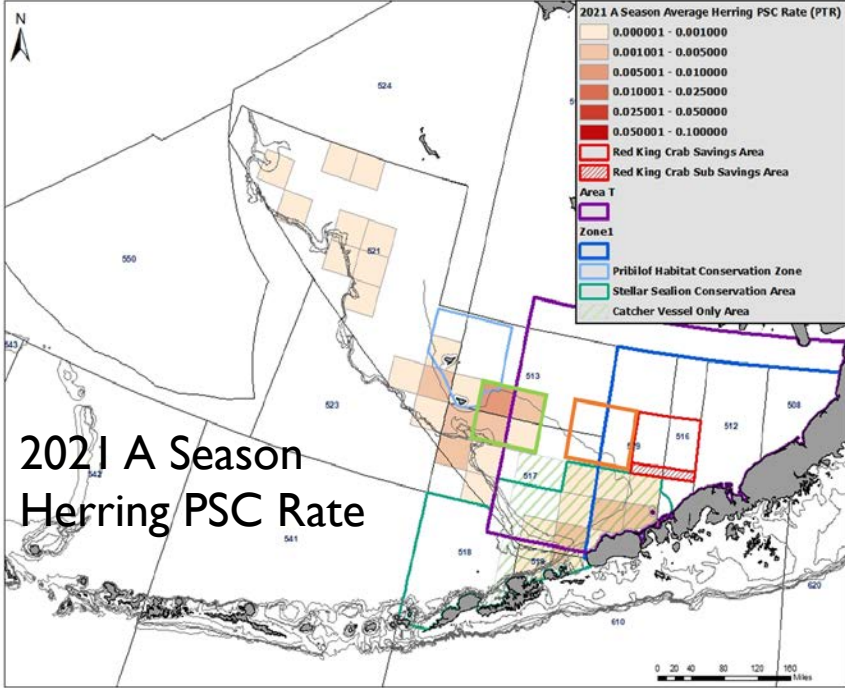
	Actual Non-Chinook PSC (# of fish)	Sum GF Weight	Rate	Est. Increase in Non-Chinook PSC
RKCSA/SS	105	74,913	0.0014	
Adjacent	2	9,217	0.0002	-89
High Area	807	29,669	0.0272	1,933
High Area in SCA	11,381	184,263	0.0618	4,522



PSC SCENARIOS: PTR & HERRING



2011-2022 Average Herring PSC Rate

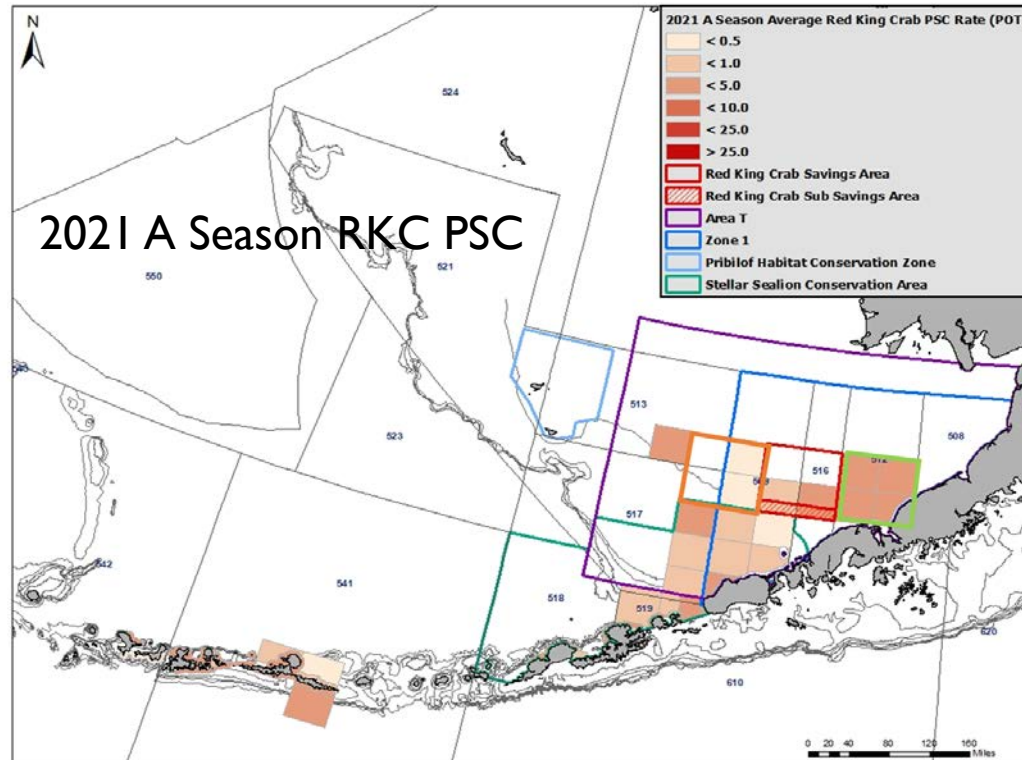


2021 A Season Herring PSC Rate

	Actual Herring PSC (mt of fish)	Sum GF Weight (mt)	Rate	Est. Increase in Herring PSC
RKCSA/SS	0	72,632	0.000	
Adjacent	0	8,623	0.000	0
High Area	184	87,739	0.002	152



PSC SCENARIOS: POT AND RKC



	Actual RKC PSC (# of crab)	Sum GF Weight (mt)	Rate	Est. Increase in RKC PSC
RKCSA/SS	303	312	0.971	
Adjacent	94	223	0.419	-172
High Area	2,213	1,727	1.282	97



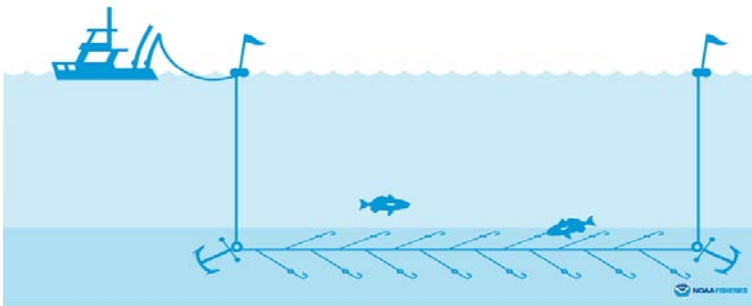
NPT PSC CHANGE FROM 2021 TO 2022

- NPT gear was prohibited in the RKCSS for 2022
- Examined an area adjacent to the RKCSA (i.e. four state statistical areas that form a box to the west of the RKCSA) for 2021 and 2022 PSC during the A season
- RKC decreased by a rate of 4% or 415 crab
- Halibut increased by a rate of 0.02% or 8mt of halibut mortality
- Opilio decreased by a rate of 17% or 1,799 crab
- Bairdi crab decreased by a rate of 140% or 15,749 crab

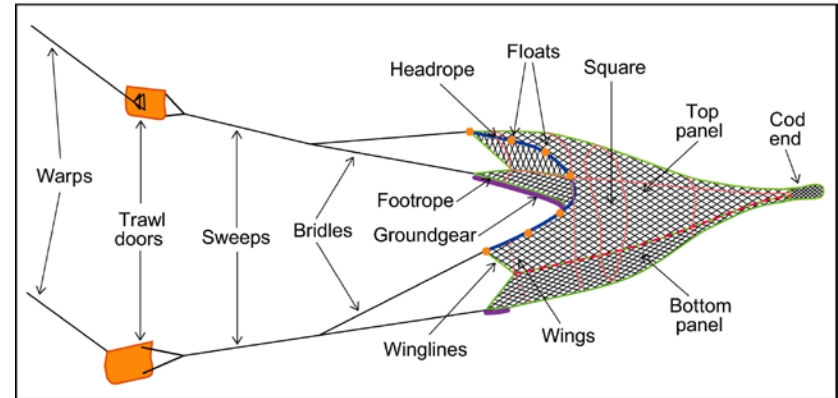


GEAR CONFIGURATIONS

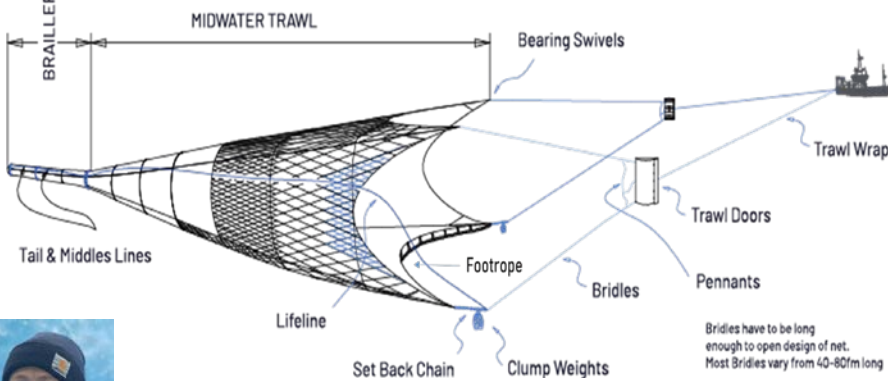
HAL



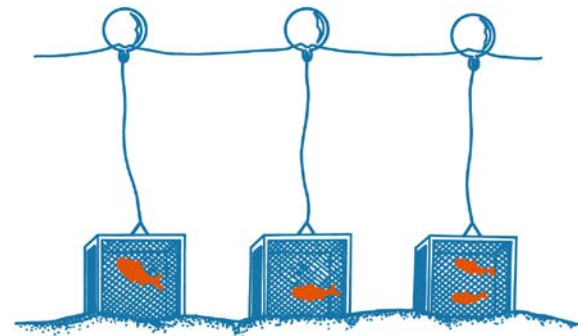
NPT



PTR



POT



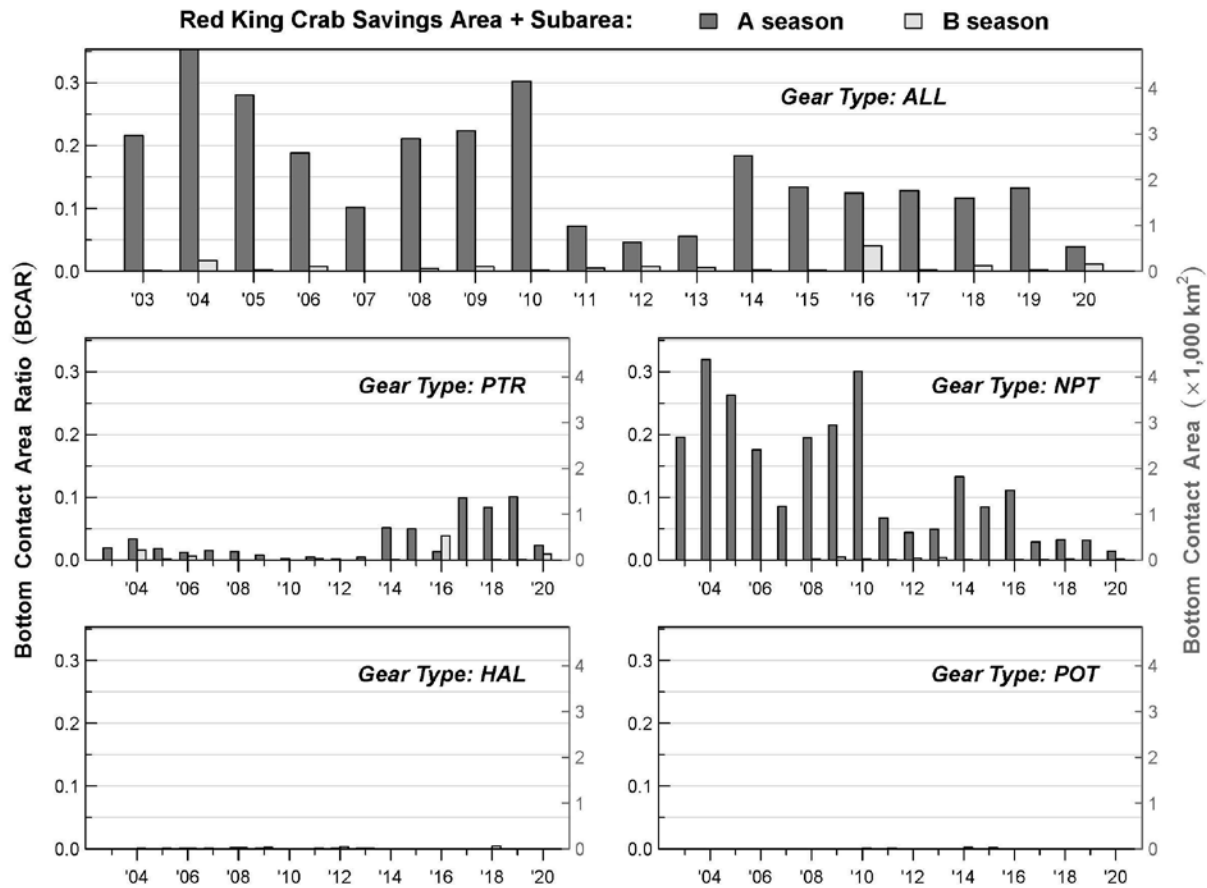
BYCATCH MORTALITY RATES

Fishery	BBRKC Handling Mortality	Source
BBRKC Fishery	20%	J. Zheng (ADFG 2020) assumed value based on published literature (see Slides 10-29 in B. Daly (ADFG 2022) presentation to Crab Plan Team
Tanner Fishery	25%	J. Zheng (ADFG 2020) assumed value based on published literature (see Slides 10-29 in B. Daly (ADFG 2022) presentation to Crab Plan Team
Groundfish Trawl	80%*	Stevens, B. G. "Survival of king and Tanner crabs captured by commercial sole trawls." Fishery Bulletin 88.4 (1990): 731-744.
Groundfish Non-Trawl (pot; hook-and-line)	50%	Stevens, B. G. "Survival of king and Tanner crabs captured by commercial sole trawls." Fishery Bulletin 88.4 (1990): 731-744.

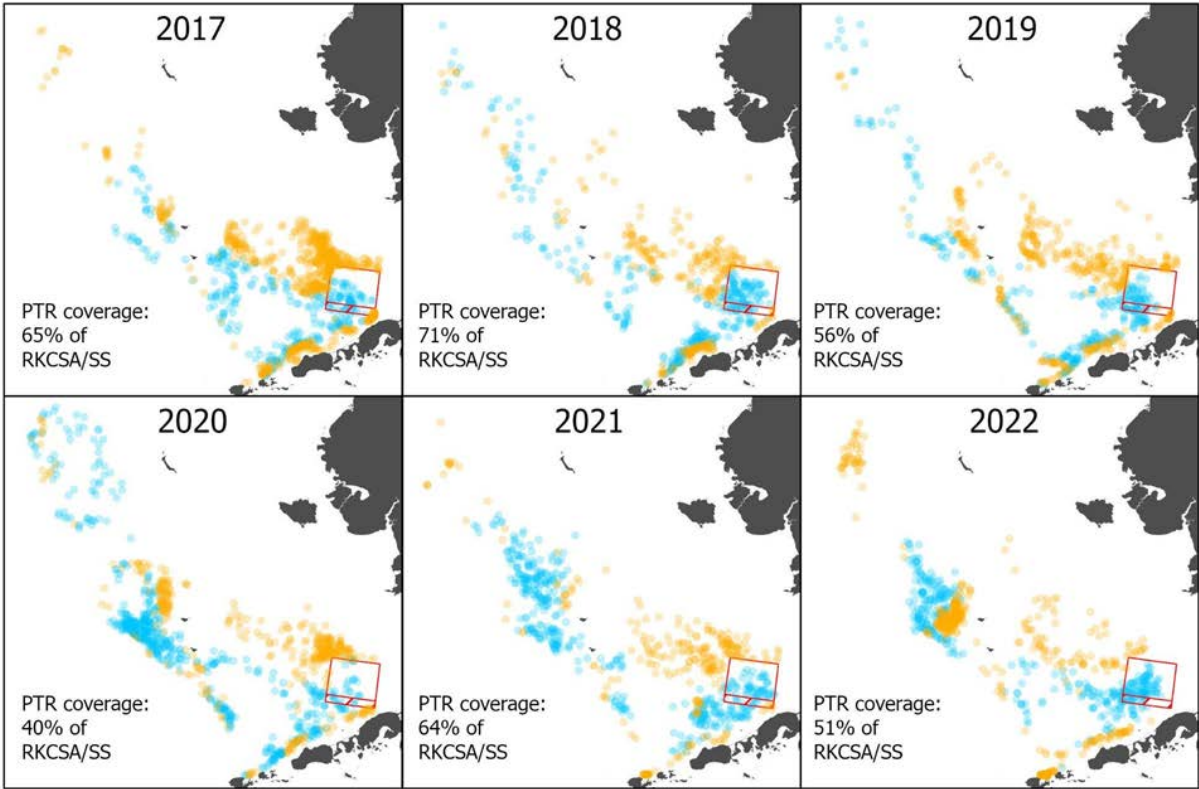
* Note: pollock catcher vessels fishing with PTR gear that are using EM, are required to bring all crab PSC to the dock, which essentially puts the handling mortality rate at 100%. This still needs further discussion



BOTTOM CONTACT



POT CAPTURES



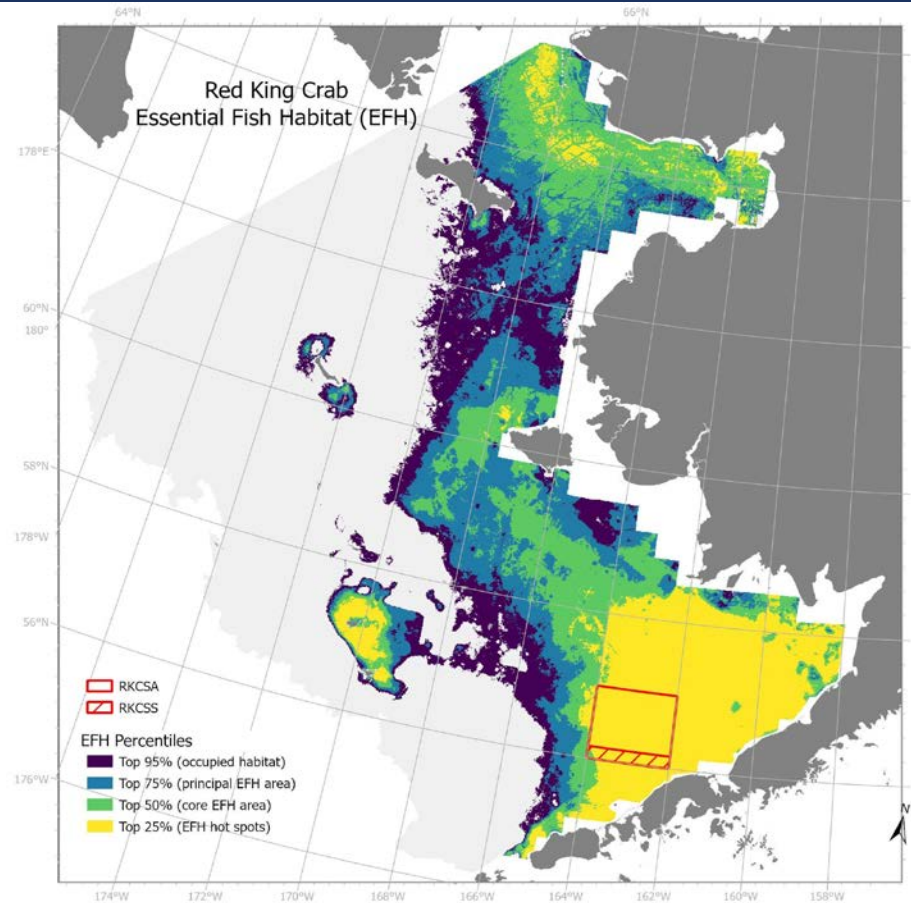
RKCSA PTR Pot Capture
 RKCSS NPT Pot Capture

0 150 300 600 Miles



ESSENTIAL FISH (CRAB) HABITAT

- The RKCSEA has been and remains essential habitat for RKC
- The RKCSEA is in the top 25% of RKC essential habitat or in other words is considered an EFH hot spot
- Area likely most important for age-4 to older classes of RKC based on depth



UNOBSERVED MORTALITY

- Unobserved mortality refers to the mortality of crab that cannot be accounted for by observers because it is caused by “hidden” mortality processes associated with the interaction of fishing gear with crab.
- The topic of unobserved mortality was recently addressed in a Council analysis that considered revising the crab PSC limits for trawl fisheries.
 - A sensitivity analysis found that the model’s terminal mature male biomass and OFL levels did not change substantially if bycatch biomass was doubled or increased by a lesser amount
- Treating unobserved mortality the same as fishing mortality may not provide a representative analysis of impacts on specifications.
- The SSC supported further research on the topic by industry and NMFS and encouraged consideration of this source of uncertainty when setting harvest buffers.



OTHER PROTECTION MEASURES

Protection measures are described to better understand additional constraints that sectors may face if prohibited from fishing in the RKCSEA.

- BSAI Halibut PSC Limits
- Performance Standard Measures for PTR
- Incentive Plans and Chinook PSC limits
- Nearshore Bristol Bay Trawl Area Closure and the Seasonal Closure of Area 516
- RKC PSC Limits in Zone 1
- Herring Savings Areas
- Steller Sea Lion Conservation Area
- Bering Sea Pollock Restriction Area



Section 5 Economic and Operational Considerations for Affected Fishing Sectors



Source: NPFMC



Of those vessels that have recently (post 2013) fished in the RKCSA/SS during the Jan 1- June 30 timeframe:

- Pelagic trawl sector = all 3 AFA sectors targeting pollock, CDQ pollock
- Hook-and-line sector = freezer longliners vessels targeting Pacific cod
- Groundfish pot = greater than or equal to 60 ft pot CVs targeting Pacific cod, pot CPs targeting Pacific cod
- Crab = Eastern Bering Tanner fishery (1st opening since 2015/16)

Not directly regulated by this action:

- Non-pelagic trawl sector = Amendment 80, Trawl Limited Access (TLAS) only RKCSS
- BBRKC fishery



Gross revenue diversification tables show:

Number of vessels participating, and

Total gross fisheries revenue generated from the RKCSA/SS between Jan 1-June 30 **relative to** total gross fisheries revenue generated from all fisheries throughout the year for each vessel.

- Includes revenue from when a vessel switches gear i.e., AFA vessel's using NPT gear to fish Pacific cod, flatfish, etc.
- Includes any revenue from CDQ
- Includes any revenue from state fisheries
- Groundfish tables do not include revenue from crab fishing

-> Helps to understand vessel-level economic reliance on this area during this timeframe



All AFA CVs (mothership and inshore sectors)

percent of gross fisheries revenue from the RKCSA/SS between Jan 1- June 30

RKCSA revenue as a % of total	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual average vessel count 2013- 2021
0%	85	67	67	36	33	18	17	63	44	48
1-10%	3	18	18	48	45	42	55	22	34	32
11-20%	0	2	1	4	8	23	10	1	4	6
21-30%	0	1	0	1	0	3	0	0	0	1
Grand Total	88	88	86	89	86	86	82	86	82	86
Average %	0.04%	1.42%	0.35%	3.30%	3.52%	6.74%	4.92%	1.09%	1.65%	2.56%

Table 5-1, page 74



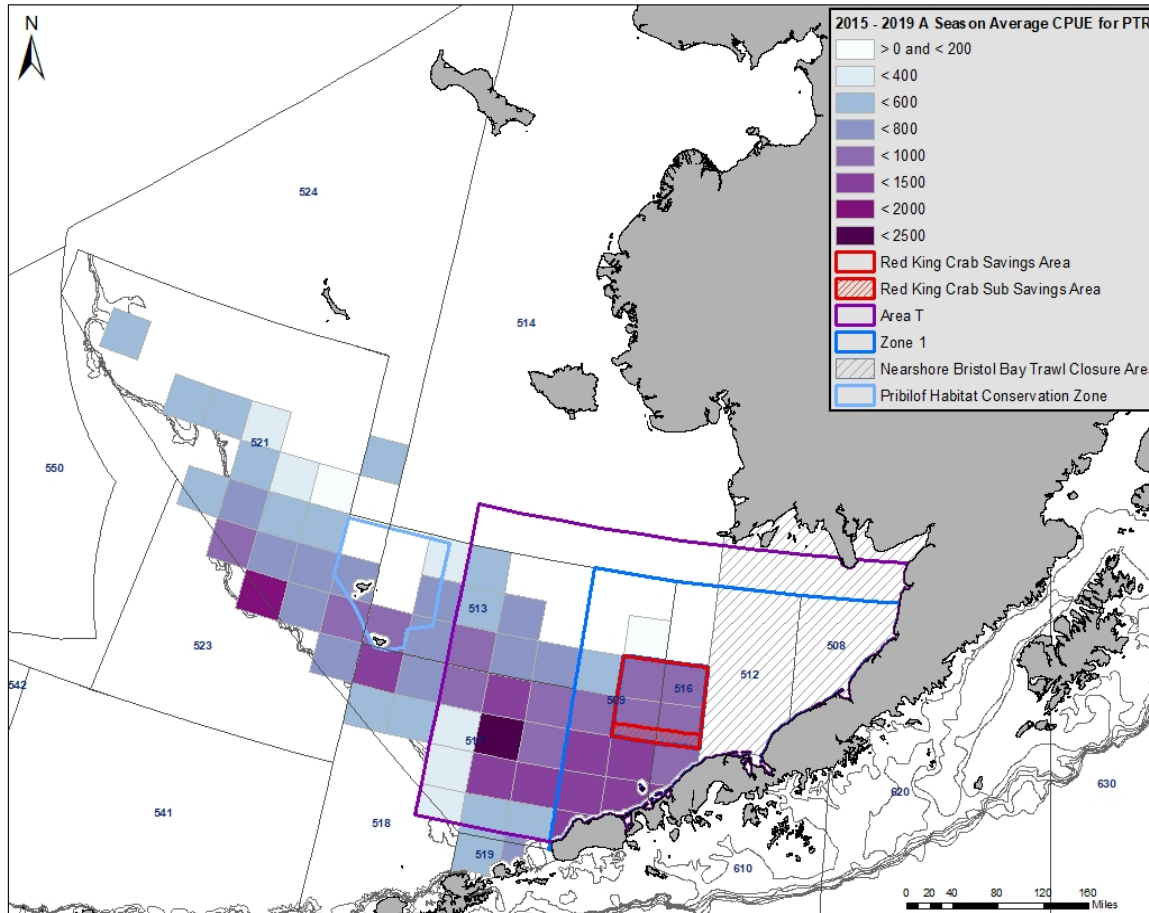
AFA CPs

percent of gross fisheries revenue from the RKCSA/SS between Jan 1 - June 30

RKCSA revenue as a % of total	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual average vessel count 2013-2021
0%	6	0	4	6	2	1	3	1	2	3
1-10%	10	17	11	10	9	5	3	12	9	10
11-20%	0	0	2	0	5	7	6	0	2	2
Grand Total	16	17	17	16	16	15	16	13	15	16
Average %	0.67%	4.38%	4.62%	1.26%	8.89%	2.51%	5.61%	2.57%	8.76%	4.56%

Table 5-4, page 77





Average PTR gear catch-per-unit-effort for the A season from 2015-2019

Figure 4-15, page 41



Expected impacts for the pelagic trawl sector

Still harvest the A season TAC by redistributing effort to other areas

- Increased operational costs (e.g., burning more fuel, expenses for crew provisions, impacts on gear)
- Potential for lower quality product (smaller, poorer roe quality)
- May move to areas of lower CPUE (also contributing to more time on the water)
- Decreased ability to respond to PSC encounters and minimize total bycatch on other PSC species – primary concerns around Chinook and herring
- Cumulative impacts with other area closures
- Possibility of still resulting in RKC PSC and possible unobserved mortality outside the RKCSA/SS



HAL and groundfish pot sectors and expected impacts

- Freezer longliner vessels have not had much recent effort in the RKCSA
 - Diversification tables show fishing in this area was more common 2013-2017, with 12 of the 34 vessels earning a portion of their revenue from this area
 - A RKCSA closure would limit the fleet's flexibility if Pacific cod CPUE becomes greater in this area
- Groundfish pot sector has not fished in the RKCSA in recent years (2022-plans for 2023) due to voluntary stand downs
 - Small amount of effort has occurred in the past (e.g., 2020)
 - Proposed action may not impact the fishing footprint if the fleet already plans to fish outside of the RKCSA



Tanner fishing effort from 2005-2022

Average of 21% of EBT pots fished on average in RKCSEA/SS

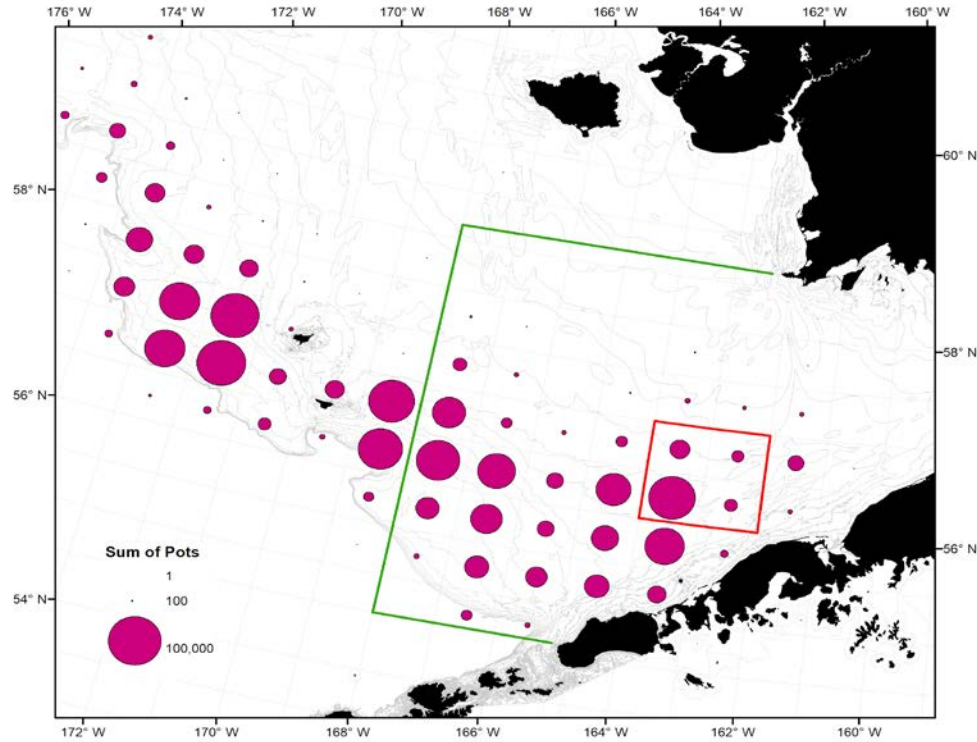


Figure A-I, page 99



Expected impacts for the EB Tanner fishery

- Would affect vessels that have not harvested their EBT IFQ before 2023 (55% of the TAC left to harvest)
- Would likely displace some effort
- It is expected the TAC will still be harvested
- Impacts particularly uncertain given how long it's been since a fishery occurred



Expected impacts for the BBRKC fishery

- Low recruitment a primary cause of population decline, so protecting mature females in particular, could help to rebuild to fishable levels
- 2022 LBA estimate is very close to the State's harvest strategy
- However, relationship is not only about fishing mortality (e.g., fluctuating environmental conditions)
- Length frequencies are discouraging
- Petition did not focus the action on rebuilding to a fishable level



SUMMARY: RKC IMPACTS

1. Female and male BBRKC abundance are at historic low levels (Figure 4.1).
2. RKC appear to be located in the RKCSA/SS year round (Figures 4.2-4.9).
3. BBRKC mature male and female adults mate and molt from January to June (Table 4.1).
4. All groundfish gear types have had RKC PSC in the RKCSA/SS. NPT and POT gear have had the most, followed by HAL and PTR gear (Tables 4.4-4.5).
5. All groundfish gear types have had bottom contact in the RKCSA/SS. PTR and NPT have had the most, followed by POT and HAL gear (Figure 4.25).
6. The RKCSA is an essential habitat area for RKC (Figure 4.30).
7. Unobserved mortality of RKC likely occurs given the spatial overlap of RKC and bottom contact of groundfish fishery gear. The degree of unobserved mortality is unknown (Section 4.5.5).



SUMMARY: SECTOR IMPACTS

1. May reduce PSC of RKC, may also decrease ability of sectors to respond to bycatch of other PSC species
2. Moving immediately outside the RKCSA/SS will likely not result in a substantial reduction in RKC PSC, would not likely increase Opilio crab, Bairdi crab or herring PSC, but could increase halibut PSC. Chinook and non-Chinook salmon PSC is most likely to remain relatively similar (Figures 4.17 & 4.18), but could increase depending on where the PTR sector chooses to move (Section 4.3).
3. Effects on the EBT fishery that operates in 2023 are difficult to assess given the lack of a fishery since 2015/16
4. Greatest impact would be on PTR sector.
 - i. increased effort within the RKCSA in recent years (Tables 4.2 and Table 4.3).
 - ii. The HAL CP sector have had some historical participation inside of the RKCSA; however not in recent years (2019- 2022; Tables 4.2 and Table 4.3).
 - iii. The POT sector has mixed participation in the RKCSA (Table 5.7) and agreed to a voluntary stand in 2022, which is likely to continue into 2023.
 - iv. The NPT sector is already prohibited from the RKCSA and RKCSS for 2023.
5. Effort is generally expected to be redistributed; however, revenue impacts could result from increased operational costs and the quality of fish able to be harvested



EVALUATING EMERGENCY RULE CRITERIA

This analysis served two primary objectives. To provide enough information for the Council to:

- Evaluate the emergency rule request (i.e. provide input on whether or not this action meets the ER criteria)
- Evaluate whether to initiate any longer term actions

The Secretary will make a final determination as to whether an emergency exists after receiving public comment on the notice of receipt of petition and receiving input from the Council and the public at the this Council meeting.



CRITERIA ONE

Criteria One: Results from recent, unforeseen events or recently discovered circumstances

Items that could be considered under Criteria One:

Yes Emergency

- In 2021 the BBRKC mature female biomass dropped below the level requiring closure of the directed fishery for the 2021/22 season. Continued closure for the 2022/23 season could be considered a new circumstance, insofar as the 2021/22 closure was for one year only.
- Recently discovered information shows that the amount of bottom contact by pelagic trawl gear in the RKCSA/RKCSS is likely more extensive than has previously been documented. In light of the depressed status of the RKC stock, this additional information about bottom contact constitutes a new circumstance bearing upon the potential for the stock to rebound to higher levels of abundance.

No Emergency

- The BBRKC stock has experienced highly variable abundance over several decades, and a decline since 2008, so the current status is more of a continuation of that long-term decline than a new circumstance.
- The fact that pelagic trawls spend some time on the bottom is not new information.
- Factors other than fishing may be a primary driver in changes to biomass.



CRITERIA TWO

Criteria Two: Presents serious conservation or management problems in the fishery

Items that could be considered under Criteria Two:

Yes Emergency

- BBRKC stock is at a historically low level
- Although levels of RKC PSC are low, unobserved mortality is likely occurring in the RKCSA due to bottom contact with PTR gear.
- Fishing effort data indicate that the amount of pelagic trawling in the RKCSA has increased in recent years, suggesting that the amount of unobserved mortality may have increased as well, although the magnitude is largely unknown.
- New analysis documents that existing performance standard to ensure pelagic trawls have minimal contact with the seafloor may be ineffective, such that the existing management measures in the RKCSA/RKCSS likely are not achieving the intended purpose of limiting the effects of bottom-tending gear on crabs and seafloor habitats.

No Emergency

- The state Guideline Harvest Level is established using the female crab threshold. The federal assessment shows there is a harvestable surplus of mature male biomass and the stock is not overfished nor approaching an overfished status, nor is overfishing occurring. The federal assessment includes total removals and biomass of both female and male crab.
- The amount of unobserved mortality is unknown, so we don't have clear information supporting a conclusion that such mortality in this specific area impacts BBRKC abundance or represents a serious conservation or management problem.
- Unobserved mortality is considered indirectly in the stock assessment parameterization and uncertainty in setting the ABC/OFL buffer.



CRITERIA THREE

Criteria Three: Can be addressed through emergency regulations for which the immediate benefits outweigh the value of advance notice, public comment, and deliberative consideration of the impacts on participants to the same extent as would be expected under the normal rulemaking process.

Items that could be considered under Criteria Three:

Yes Emergency

- Closing the RKCSA/RKCSS to bottom-contact fishing gear from January through June 2023 would alleviate impacts to crabs and crab habitat
- Although the normal rulemaking process would afford additional opportunities for public comment and deliberative consideration of the impacts of the proposed closure, those factors are partially mitigated by the opportunities for public input and consideration of public comments that have transpired since NMFS received the petition:
 - NMFS wrote to NPFMC the day after receiving the petition to request Council input.
 - NPFMC discussed and considered this proposal and associated public testimony and written comments at its October 2022 meeting and requested that NMFS prepare an analysis.
 - NMFS published a notice in the Federal Register seeking public comments on the petition and received 34 comments.
 - NPFMC again discussed and considered this proposal and associated public testimony and written comments at its December 2022 meeting.

No Emergency

- Considering the petitioned action or similar action via the normal rulemaking process instead of taking emergency action would allow fishing gear to continue affecting crabs and crab habitat in a management area that was established expressly to alleviate such impacts.
- The immediate benefits of the requested short-term closure are unclear. Some unknown number of crabs within the RKCSA may be spared, but fishing effort will redeploy to other areas and at least partially offset any benefits.
- Analyzing potential new management measures via the normal Council process would provide a more thorough opportunity to consider the relative benefits and costs of the proposed closure. This would provide more opportunities for public involvement and the possibility of considering a greater variety of potential management actions, such as changes to the pelagic trawl performance standard and/or revising the boundaries of the RKCSA.



EXTRA SLIDES

Table 4.3 Groundfish catch (metric tons) by gear type, area (entire BS, Other Area T, RKCSA/SS) and season – 2013-2022 (*2022 YTD 10/21)

Gear	Area	2013			2014			2015			2016			2017		
		Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
HAL	RKCSA/SS	7,304	3,545	10,849	2,205	1,052	3,257	801	75	876	72	970	1,042	1,841	2,425	4,266
	Other Area T	40,734	34,222	74,956	29,824	26,931	56,754	25,105	23,583	48,689	22,695	14,592	37,287	23,899	7,887	31,786
	BS	80,600	75,976	156,576	78,383	84,008	162,391	75,719	91,997	167,716	78,932	88,319	167,251	78,696	86,286	164,982
NPT	RKCSS	19,764	1,101	20,865	21,717	173	21,890	10,786	15	10,801	15,076	106	15,183	7,657	74	7,731
	Other Area T	138,698	146,175	284,872	163,666	125,403	289,069	138,749	91,321	230,070	157,459	101,515	258,974	147,213	89,736	236,948
	BS	220,490	175,069	395,559	226,432	161,028	387,461	177,914	136,835	314,749	193,910	140,299	334,208	179,356	131,588	310,944
POT	RKCSA/SS	1,359	1,897	3,256	483	2,491	2,974	35	2,879	2,914		910	910		520	520
	Other Area T	15,809	5,053	20,861	16,908	2,228	19,136	17,914	2,594	20,509	22,259	3,794	26,053	23,351	6,163	29,514
	BS	21,342	10,004	31,346	29,989	10,439	40,428	28,336	10,665	39,001	37,109	11,124	48,233	35,285	11,793	47,078
PTR	RKCSA/SS	3,304		3,304	43,351	1,091	44,442	33,867		33,867	14,650	19,651	34,302	81,988	15	82,003
	Other Area T	175,650	226,649	402,298	316,423	272,588	589,011	72,033	300,218	372,251	279,846	542,380	822,226	377,261	448,597	825,858
	BS	505,804	742,372	1,248,176	503,038	754,162	1,257,200	511,554	783,123	1,294,677	522,019	796,512	1,318,531	570,185	762,533	1,332,718
All Gear	BS	828,237	1,003,421	1,831,657	837,842	1,009,638	1,847,480	793,523	1,022,621	1,816,143	831,970	1,036,253	1,868,223	863,522	992,200	1,855,722

Gear	Area	2018			2019			2020			2021			2022		
		Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
HAL	RKCSA/SS	979	6,304	7,283		31	31		26	26					576	576
	Other Area T	13,819	8,341	22,161	11,953	859	12,812	5,238	531	5,770	1,200	2,796	3,996	6,367	12,778	19,145
	BS	63,353	74,400	137,753	56,614	57,493	114,108	50,124	45,654	95,778	36,988	38,218	75,206	45,307	47,774	93,081
NPT	RKCSS	2,582	10	2,592	2,214	8	2,222	1,850	276	2,126	1,075		1,075	37		37
	Other Area T	137,694	62,481	200,175	126,551	66,847	193,398	137,065	75,860	212,924	114,305	57,996	172,301	118,297	53,869	172,165
	BS	182,938	130,292	313,229	185,182	113,947	299,129	192,251	108,033	300,284	147,298	93,403	240,701	172,658	112,392	285,049
POT	RKCSA/SS		459	459		611	611	1,202		1,202	107		107			
	Other Area T	20,140	8,322	28,461	18,487	11,212	29,699	13,317	6,561	19,878	12,534	3,486	16,020	15,264	5,642	20,906
	BS	29,819	10,925	40,744	27,646	14,789	42,435	24,438	8,874	33,312	21,215	5,352	26,567	30,049	9,600	39,648
PTR	RKCSA/SS	82,399	372	82,771	89,956	1,494	91,451	19,595		19,595	73,581		73,581	98,896		98,896
	Other Area T	473,851	290,861	764,712	499,189	312,649	811,838	428,707	139,076	567,783	242,788	227,690	470,478	246,889	200,778	447,667
	BS	587,820	758,593	1,346,413	602,363	781,613	1,383,976	578,913	666,034	1,244,946	466,884	585,455	1,052,338	354,417	441,062	795,479
All Gear	BS	863,929	974,210	1,838,139	871,805	967,843	1,839,648	845,726	828,594	1,674,320	672,385	722,427	1,394,812	602,430	610,828	1,213,258



Table 4.4 Red King Crab PSC (# of animals) by gear type, area (RKCSA/SS, Zone 1, Area T, and entire BS) and year – 2013-2022 (*2022 YTD 10/21)

Gear	Area	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	RKCSA	5,452	4,173	1,006	3,896	5,527	9,180	0	2		5	3,249
	Zone 1	12,495	15,816	6,306	8,334	7,610	17,754	0	2	0	6	6,832
	Area T	12,509	15,870	6,470	8,833	7,755	19,209	19	8	0	6	7,068
	BS	12,737	16,721	7,177	9,732	8,184	19,518	95	61	226	474	7,493
NPT	RKCSA	6,821	12,979	3,704	8,163	2,285	796	1,890	2,187	533	0	3,936
	Zone 1	25,186	28,213	12,754	23,319	35,032	12,725	25,008	42,745	19,171	3,153	22,731
	Area T	26,756	31,496	18,321	38,185	56,671	21,942	58,891	59,497	34,840	6,684	35,328
	BS	31,497	32,221	19,903	41,004	59,527	30,109	69,597	64,390	40,500	6,871	39,562
POT	RKCSA	6,280	17,619	61,213	14,514	384	12,516	953	249	97		12,647
	Zone 1	65,476	80,770	104,440	21,812	18,164	243,456	41,964	14,030	234,539	7,468	83,212
	Area T	71,511	84,132	114,767	22,065	21,002	264,753	43,309	14,795	260,459	8,347	90,514
	BS	93,138	136,667	177,722	22,427	30,053	291,184	46,102	20,793	281,903	12,937	111,292
PTR	RKCSA	0	7	0	2	20	5	23	3	18	7	8
	Zone 1	0	7	0	6	23	14	25	9	27	13	12
	Area T	0	7	0	6	23	14	25	10	27	13	13
	BS	0	7	0	6	23	14	25	10	27	13	13
Total	RKCSA	18,553	34,777	65,923	26,574	8,216	22,497	2,866	2,440	647	12	19,840
	Zone 1	103,157	124,806	123,500	53,471	60,828	273,949	66,997	56,786	253,737	10,640	112,787
	Area T	110,776	131,506	139,558	69,089	85,451	305,918	102,244	74,310	295,326	15,051	132,923
	BS	137,372	185,616	204,802	73,168	97,787	340,825	115,819	85,254	322,656	20,295	158,359



Table 4.5 Red King Crab PSC (# of animals) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
2013	3,982	1,470	5,452	6,649	172	6,821	1,458	4,822	6,280	0	0	0	12,089	6,464	18,553
2014	2,414	1,759	4,173	12,922	57	12,979	414	17,205	17,619	7	0	7	15,756	19,021	34,777
2015	889	117	1,006	3,704	0	3,704	105	61,108	61,213	0	0	0	4,698	61,225	65,923
2016	65	3,831	3,896	7,762	400	8,163	0	14,514	14,514	0	2	2	7,828	18,747	26,574
2017	971	4,556	5,527	2,160	125	2,285	0	384	384	20	0	20	3,151	5,065	8,216
2018	448	8,732	9,180	790	6	796	0	12,516	12,516	5	0	5	1,243	21,253	22,497
2019	0	0	0	1,814	76	1,890	0	953	953	23	0	23	1,837	1,029	2,866
2020	0	2	2	1,552	635	2,187	249	0	249	3	0	3	1,803	637	2,440
2021	0	0	0	533	0	533	97	0	97	18	0	18	647	0	647
2022	0	124	124	0	0	0	0	0	0	7	0	7	7	124	131
Average	877	2,059	2,936	3,789	147	3,936	232	11,150	11,382	8	0	8	4,906	13,357	18,263



Table 4.6 Chinook PSC (# of animals) by gear type and area (BS, Area T, RKCSA/SS) – 2013-2022 (*2022 YTD 10/21)

Gear	Area	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	RKCSA	0	6	0	0	0	0	0	0	0	0	1
	Other Area T	0	13	30	19	10	12	0	0	10	0	9
	Total Area T	0	20	30	19	10	12	0	0	10	0	10
	BS Total	0	34	67	44	30	63	22	21	16	7	30
NPT	RKCSA	0	148	402	570	85	85	16	21	0	0	133
	Other Area T	1,132	1,941	5,238	8,233	2,880	2,016	3,696	906	837	345	2,722
	Total Area T	1,132	2,089	5,640	8,803	2,965	2,101	3,711	927	837	345	2,855
	BS Total	2,792	2,349	6,598	9,601	4,768	2,679	5,903	1,921	1,692	1,692	681
POT	RKCSA	0	0	0	0	0	0	0	0	0	0	0
	Other Area T	0	0	0	0	0	0	0	0	0	0	0
	Total Area T	0	0	0	0	0	0	0	0	0	0	0
	BS Total	0	0	0	0	0	0	0	0	0	0	0
PTR	RKCSA	4	260	893	289	2,269	482	1,699	131	555	504	709
	Other Area T	8,641	10,862	6,478	10,358	20,245	9,735	18,806	18,643	7,578	5,114	11,646
	Total Area T	8,645	11,122	7,371	10,647	22,514	10,217	20,505	18,774	8,133	5,618	12,355
	BS Total	13,036	15,037	18,329	21,926	30,076	13,731	24,985	32,203	13,784	6,336	18,944
All Gear	RKCSA	4	414	1,295	859	2,354	567	1,715	152	555	504	842
	Other Area T	9,773	12,817	11,745	18,610	23,135	11,763	22,502	19,549	8,425	5,459	14,378
	Total Area T	9,777	13,231	13,040	19,469	25,489	12,330	24,216	19,701	8,980	5,963	15,220
	BS Total	15,828	17,419	24,993	31,571	34,874	16,473	30,910	34,145	15,492	7,024	22,873



Table 4.7 Chinook PSC (# of animals) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
2013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00		4.00	4.00	0.00	4.00
2014	6.41	0.00	6.41	148.00	0.00	148.00	0.00	0.00	0.00	260.00		260.00	414.41	0.00	414.41
2015	0.00	0.00	0.00	402.13	0.00	402.13	0.00	0.00	0.00	893.00		893.00	1,295.13	0.00	1,295.13
2016	0.00	0.00	0.00	570.03	0.05	570.07		0.00	0.00	270.00	19.00	289.00	840.03	19.05	859.07
2017	0.00	0.00	0.00	84.80	0.00	84.80		0.00	0.00	2,269.00		2,269.00	2,353.80	0.00	2,353.80
2018	0.00	0.02	0.02	85.00		85.00		0.00	0.00	482.00		482.00	567.00	0.02	567.02
2019		0.00	0.00	15.82	0.00	15.82		0.00	0.00	1,699.00		1,699.00	1,714.82	0.00	1,714.82
2020	0.00	0.00	0.00	20.59	0.00	20.59	0.00		0.00	131.00		131.00	151.59	0.00	151.59
2021				0.00		0.00	0.00		0.00	555.00		555.00	555.00	0.00	555.00
2022		0.00	0.00	0.00		0.00				504.00		504.00	504.00	0.00	504.00
Average	0.92	0.00	0.71	132.64	0.01	132.64	0.00	0.00	0.00	706.70	19.00	708.60	839.98	1.91	841.88



Table 4.8 Non-Chinook Salmon PSC (# of animals) by gear type and area (BS, Area T, RKCSA/SS) – 2013-2022 (*2022 YTD 10/21)

Gear	Area	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	RKCSA	0	1	0	0	12	5	0	0		7	3
	Other Area T	61	139	31	65	56	9	0	0	15	12	39
	Total Area T	61	141	31	65	69	14	0	0	15	19	41
	BS Total	181	288	134	252	207	198	318	135	47	100	186
NPT	RKCSA	0	17	13	75	0	0	0	0	0	0	10
	Other Area T	850	3,229	1,738	1,886	1,161	7,220	3,163	320	1,693	105	2,136
	Total Area T	850	3,246	1,751	1,961	1,161	7,220	3,163	320	1,693	105	2,147
	BS Total	966	4,137	3,606	2,747	1,884	12,077	6,340	1,088	2,663	1,220	3,673
POT	RKCSA	0	0	0	0	0	0	0	0	0	0	0
	Other Area T	0	0	0	0	0	0	0	0	0	0	0
	Total Area T	0	0	0	0	0	0	0	0	0	0	0
	BS Total	0	0	0	0	0	0	0	0	0	0	0
PTR	RKCSA	0	25	184	1,114	58	5	522	1	11	4	192
	Other Area T	90,399	106,484	158,611	251,955	303,943	169,727	142,760	75,367	323,127	167,412	178,979
	Total Area T	90,399	106,509	158,795	253,069	304,001	169,732	143,282	75,368	323,138	167,416	179,171
	BS Total	125,316	219,442	237,752	343,001	467,678	295,092	348,023	343,626	546,042	242,350	316,832
All Gear	RKCSA	0	44	197	1,189	70	10	522	1	11	11	206
	Other Area T	91,310	109,852	160,380	253,906	305,160	176,956	145,923	75,687	324,835	167,529	181,154
	Total Area T	91,310	109,896	160,577	255,095	305,230	176,966	146,445	75,688	324,846	167,540	181,359
	BS Total	126,463	223,867	241,491	346,000	469,769	307,367	354,681	344,849	548,752	243,670	320,691



Table 4.9 Non-Chinook Salmon PSC (# of animals) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
2013	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.06	0.06
2014	0.00	1.43	1.43	17.35	0.00	17.35	0.00	0.00	0.00	25.00		25.00	42.35	1.43	43.78
2015	0.00	0.00	0.00	12.67	0.00	12.67	0.00	0.00	0.00	184.00		184.00	196.67	0.00	196.67
2016	0.00	0.00	0.00	74.72	0.03	74.76		0.00	0.00	202.00	912.00	1114.00	276.72	912.03	1188.76
2017	0.00	12.38	12.38	0.00	0.00	0.00		0.00	0.00	58.00		58.00	58.00	12.38	70.38
2018	0.00	5.20	5.20	0.00		0.00		0.00	0.00	5.00		5.00	5.00	5.20	10.20
2019		0.00	0.00	0.00	0.00	0.00		0.00	0.00	522.00		522.00	522.00	0.00	522.00
2020	0.00	0.07	0.07	0.00	0.00	0.00	0.00		0.00	1.00		1.00	1.00	0.07	1.07
2021				0.00		0.00	0.00		0.00	11.00		11.00	11.00	0.00	11.00
2022		7.14	7.14	0.00		0.00				4.00		4.00	4.00	7.14	11.14
Average	0.00	2.92	2.92	10.47	0.00	10.48	0.00	0.00	0.00	101.20	912.00	192.40	111.67	93.83	205.51



Table 4.10 Halibut mortality (metric tons) by gear type and area (BS, Area T, RKCSA/SS) – 2013-2022 (*2022 YTD 10/21)

Gear	Area	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	RKCSA	18	7	2	4	6	9	0	0		1	5
	Other Area T	288	169	119	82	61	43	22	7	12	46	85
	Total Area T	306	175	121	86	67	52	22	7	12	47	90
	BS Total	530	449	310	218	183	125	77	80	67	134	217
NPT	RKCSA	88	167	96	95	21	17	15	14	11	0	52
	Other Area T	2,023	2,037	1,282	1,426	1,138	1,138	1,472	1,015	835	983	1,335
	Total Area T	2,111	2,204	1,378	1,522	1,158	1,155	1,488	1,029	846	984	1,387
	BS Total	2,623	2,666	1,714	1,897	1,535	1,753	2,053	1,404	1,206	1,537	1,839
POT	RKCSA	1	1	0	0	0	0	0	0	0		0
	Other Area T	1	1	1	1	1	0	2	2	3	9	2
	Total Area T	1	1	1	1	1	0	2	2	3	9	2
	BS Total	4	4	3	3	2	1	3	3	8	21	5
PTR	RKCSA	2	19	10	1	24	7	29	2	32	42	17
	Other Area T	118	84	19	32	40	34	53	50	69	78	58
	Total Area T	119	103	29	32	65	41	82	52	102	120	74
	BS Total	212	157	112	91	80	49	98	86	109	123	112
All Gear	RKCSA	108	193	107	100	52	33	44	17	43	43	74
	Other Area T	2,429	2,291	1,421	1,541	1,240	1,215	1,549	1,074	920	1,116	1,480
	Total Area T	2,537	2,484	1,528	1,641	1,291	1,248	1,593	1,090	963	1,159	1,554
	BS Total	3,368	3,276	2,139	2,209	1,801	1,928	2,231	1,573	1,389	1,816	2,173



Table 4.11 Halibut mortality (metric tons) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
2013	9.65	8.01	17.66	82.22	5.62	87.84	0.06	0.49	0.55	1.60		1.60	93.53	14.12	107.66
2014	2.87	3.65	6.52	166.93	0.27	167.19	0.02	0.53	0.55	18.99		18.99	188.81	4.44	193.25
2015	1.50	0.33	1.84	95.55	0.04	95.59	0.00	0.15	0.15	9.90		9.90	106.95	0.53	107.48
2016	1.28	2.99	4.27	94.30	0.82	95.13		0.02	0.02	0.39	0.23	0.63	95.98	4.06	100.04
2017	1.13	5.22	6.35	20.05	0.77	20.82		0.02	0.02	24.35		24.35	45.52	6.00	51.53
2018	1.99	6.90	8.88	16.82		16.82		0.00	0.00	6.98		6.98	25.78	6.90	32.68
2019		0.02	0.02	15.16	0.18	15.34		0.00	0.00	28.79		28.79	43.94	0.20	44.14
2020	0.09	0.03	0.12	11.15	3.24	14.38	0.00		0.00	2.15		2.15	13.39	3.27	16.66
2021				10.51		10.51	0.00		0.00	32.30		32.30	42.81	0.00	42.81
2022		1.26	1.26	0.14		0.14				41.74		41.74	41.88	1.26	43.14
Average	2.64	3.16	5.21	51.28	1.56	52.38	0.02	0.17	0.14	16.72	0.23	16.74	69.86	4.08	73.94



Table 4.12 Opilio Crab PSC (# of animals) by gear type and area (BS, Area T, RKCSA/SS) – 2013-2022 (*2022 YTD 10/21)

Gear	Area	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	RKCSA	773	68	13	40	106	75	22	8		169	141
	Other Area T	8,254	10,111	6,077	11,200	3,787	1,279	1,492	520	495	3,137	4,635
	Total Area T	9,027	10,178	6,090	11,240	3,893	1,354	1,514	528	495	3,306	4,762
	BS Total	29,212	39,121	27,303	41,528	37,121	24,950	25,906	21,656	21,047	22,570	29,041
NPT	RKCSA	1,002	1,611	696	49	14	4	4	130	62	0	357
	Other Area T	204,162	322,474	273,702	69,053	48,606	56,095	117,830	129,244	97,228	54,399	137,279
	Total Area T	205,164	324,085	274,398	69,103	48,620	56,099	117,834	129,374	97,290	54,399	137,637
	BS Total	689,035	481,093	488,626	166,090	159,343	1,582,149	941,142	778,801	246,695	182,737	571,571
POT	RKCSA	4,731	614	967	155	242	26	143	87	866		870
	Other Area T	6,102	59,832	57,604	4,359	48,749	7,617	8,607	40,142	21,893	4,199	25,910
	Total Area T	10,833	60,447	58,571	4,513	48,992	7,642	8,750	40,229	22,759	4,199	26,694
	BS Total	13,583	83,862	121,560	20,037	130,833	46,277	68,732	121,054	53,263	42,300	70,150
PTR	RKCSA	0	0	0	2	0	4	10	0	8	0	2
	Other Area T	350	529	1	262	53	27	11	24	58	12	133
	Total Area T	350	529	1	264	53	31	21	24	66	12	135
	BS Total	4,065	3,331	2,961	884	334	277	69	1,714	522	42	1,420
All Gear	RKCSA	6,506	2,293	1,676	246	362	109	179	225	937	169	1,270
	Other Area T	218,867	392,946	337,385	84,874	101,195	65,017	127,940	169,930	119,674	61,747	167,958
	Total Area T	225,373	395,239	339,061	85,120	101,558	65,126	128,119	170,154	120,610	61,916	169,228
	BS Total	735,895	607,407	640,451	228,540	327,631	1,653,653	1,035,849	923,224	321,527	247,648	672,182



Table 4.13 Opilio Crab PSC (# of animals) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
2013	526	247	773	797	205	1,002	1,687	3,044	4,731	0		0	3,010	3,496	6,506
2014	32	36	68	1,611	0	1,611	302	312	614	0		0	1,945	348	2,293
2015	8	5	13	696	0	696	248	719	967	0		0	952	724	1,676
2016	21	19	40	26	23	49		155	155	0	1	2	48	198	246
2017	11	95	106	14	0	14		242	242	0		0	26	337	362
2018	8	67	75	4		4		26	26	4		4	16	93	109
2019		22	22	4	0	4		143	143	10		10	14	165	179
2020	0	8	8	104	25	130	87		87	0		0	191	33	225
2021				62		62	866		866	8		8	937	0	937
2022		169	169	0		0				0		0	0	169	169
Average	87	74	141	332	36	357	638	663	870	2	1	2	714	556	1,270



Table 4.14 Bairdi Tanner Crab PSC (# of animals) by gear type and area (BS, Area T, RKCSA/SS) – 2013-2022 (*2022 YTD 10/21)

Gear	Area	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	RKCSA	2,655	2,233	781	1,257	1,784	2,071	1	1		103	1,210
	Other Area T	16,143	19,987	19,705	14,260	10,134	4,598	1,956	995	261	1,870	8,991
	Total Area T	18,798	22,219	20,487	15,517	11,918	6,669	1,957	995	261	1,973	10,080
	BS Total	23,384	33,876	35,992	36,731	31,267	12,055	6,919	5,807	3,806	7,921	19,776
NPT	RKCSA	10,805	43,669	14,473	6,532	2,565	1,114	977	647	923	69	8,177
	Other Area T	486,490	461,928	256,763	166,123	268,113	116,972	225,184	368,474	442,691	240,738	303,347
	Total Area T	497,295	505,597	271,236	172,654	270,678	118,085	226,161	369,120	443,614	240,807	311,525
	BS Total	715,104	622,933	422,261	220,649	352,582	182,891	343,574	596,491	587,884	384,538	442,891
POT	RKCSA	97,911	110,454	113,523	45,932	5,005	2,805	357	3,344	599		42,215
	Other Area T	67,995	225,077	318,828	154,671	215,693	194,439	76,734	41,460	11,503	51,833	135,823
	Total Area T	165,906	335,531	432,351	200,603	220,698	197,245	77,092	44,804	12,102	51,833	173,816
	BS Total	213,867	565,939	610,575	296,359	325,599	240,860	111,367	71,952	31,330	104,334	257,218
PTR	RKCSA	5	98	8	13	61	28	5	0	39	0	26
	Other Area T	1,418	345	17	215	104	765	31	47	117	48	311
	Total Area T	1,422	443	25	228	164	793	36	47	156	48	336
	BS Total	1,758	1,063	1,185	476	331	908	121	1,479	492	144	796
All Gear	RKCSA	111,375	156,453	128,785	53,734	9,415	6,018	1,340	3,992	1,561	172	47,285
	Other Area T	572,046	707,337	595,313	335,268	494,043	316,774	303,906	410,975	454,572	294,489	448,472
	Total Area T	683,421	863,789	724,098	389,002	503,458	322,792	305,246	414,967	456,134	294,661	495,757
	BS Total	954,114	1,223,811	1,070,012	554,215	709,779	436,714	461,980	675,729	623,512	496,936	720,680



Table 4.15 Bairdi Tanner Crab PSC (# of animals) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total	Jan-May	Jun-Dec	Total
2013	1,327	1,328	2,655	7,030	3,774	10,805	7,653	90,259	97,911	5		5	16,015	95,361	111,375
2014	1,268	965	2,233	43,491	178	43,669	25,950	84,504	110,454	98		98	70,806	85,647	156,453
2015	735	47	781	14,465	7	14,473	1,913	111,611	113,523	8		8	17,121	111,664	128,785
2016	99	1,158	1,257	6,292	239	6,532		45,932	45,932	1	12	13	6,393	47,342	53,734
2017	590	1,195	1,784	2,549	16	2,565		5,005	5,005	61		61	3,200	6,216	9,415
2018	467	1,604	2,071	1,114		1,114		2,805	2,805	28		28	1,608	4,410	6,018
2019		1	1	964	13	977		357	357	5		5	969	371	1,340
2020	0	1	1	488	159	647	3,344		3,344	0		0	3,832	160	3,992
2021				923		923	599		599	39		39	1,561	0	1,561
2022		103	103	69		69				0		0	69	103	172
Average	641	711	1,210	7,739	627	8,177	7,892	48,639	42,215	24	12	26	12,157	35,127	47,285



Table 4.16 Herring PSC (metric tons) by gear type and season (BS, Area T, RKCSA/SS) – 2013-2022 (*2022 YTD 10/21)

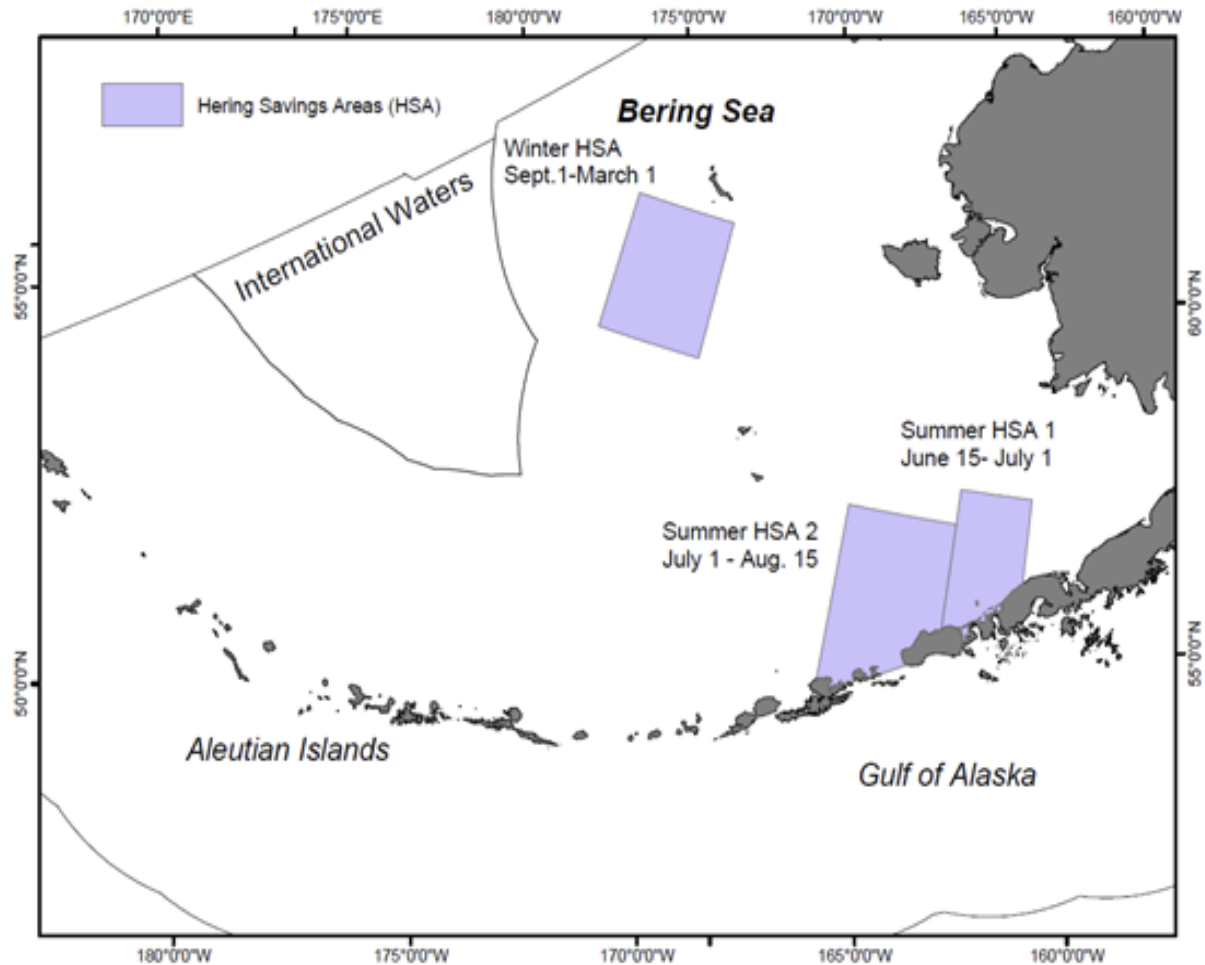
Gear	Area	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
HAL	RKCSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
	Other Area T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	Total Area T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	BS Total	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
NPT	RKCSA	0.01	0.01	0.04	0.01	0.02	0.15	0.06	0.16	0.00	0.00	0.05
	Other Area T	2.24	19.09	37.85	51.15	33.14	41.95	53.01	33.06	119.08	42.94	43.35
	Total Area T	2.25	19.10	37.89	51.16	33.16	42.11	53.06	33.22	119.09	42.94	43.40
	BS Total	29.12	27.14	42.60	62.66	58.59	67.53	81.93	73.19	170.92	46.78	66.04
POT	RKCSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
	Other Area T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Area T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	BS Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PTR	RKCSA	0.00	0.04	0.01	1.12	0.03	0.24	0.19	0.02	0.02	7.48	0.91
	Other Area T	24.65	112.06	753.39	725.81	442.13	205.68	696.99	1,546.84	1,207.94	1,464.21	717.97
	Total Area T	24.65	112.10	753.40	726.93	442.16	205.92	697.17	1,546.86	1,207.96	1,471.69	718.88
	BS Total	958.92	159.36	1,486.58	1,430.87	962.76	473.36	1,100.06	3,860.87	1,707.46	1,711.83	1,385.21
All Gear	RKCSA	0.01	0.05	0.05	1.14	0.05	0.39	0.24	0.18	0.03	7.48	0.96
	Other Area T	26.89	131.15	791.24	776.95	475.27	247.63	750.00	1,579.90	1,327.02	1,507.16	761.32
	Total Area T	26.90	131.20	791.29	778.09	475.32	248.03	750.24	1,580.08	1,327.05	1,514.64	762.28
	BS Total	988.16	186.50	1,529.18	1,493.53	1,021.35	540.90	1,182.00	3,934.05	1,878.38	1,758.64	1,451.27



Table 4.17 Herring PSC (metric tons) by gear type and season in the RKCSA/SS – 2013-2022 (*2022 YTD 10/21)

YEAR	HAL			NPT			POT			PTR			All Gears		
	<i>Jun-Dec</i>	<i>Jan-May</i>	<i>Total</i>	<i>Jun-Dec</i>	<i>Jan-May</i>	<i>Total</i>	<i>Jun-Dec</i>	<i>Jan-May</i>	<i>Total</i>	<i>Jun-Dec</i>	<i>Jan-May</i>	<i>Total</i>	<i>Jun-Dec</i>	<i>Jan-May</i>	<i>Total</i>
2013	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00		0.00	0.00	0.01	0.00	0.01
2014	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00		0.04	0.04	0.00	0.05	0.05
2015	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00		0.01	0.01	0.00	0.05	0.05
2016	0.00	0.00	0.00	0.01	0.00	0.01	0.00		0.00	0.93	0.19	1.12	0.94	0.20	1.14
2017	0.00	0.00	0.00	0.00	0.02	0.02	0.00		0.00		0.03	0.03	0.00	0.05	0.05
2018	0.00	0.00	0.00		0.15	0.15	0.00		0.00		0.24	0.24	0.00	0.39	0.39
2019	0.00		0.00	0.00	0.06	0.06	0.00		0.00		0.19	0.19	0.00	0.24	0.24
2020	0.00	0.00	0.00	0.00	0.16	0.16		0.00	0.00		0.02	0.02	0.00	0.18	0.18
2021					0.00	0.00		0.00	0.00		0.02	0.02	0.00	0.03	0.03
2022	0.00		0.00		0.00	0.00					7.48	7.48	0.00	7.48	7.48
Average	0.00	0.00	0.00	0.00	0.04	0.05	0.00	0.00	0.00	0.93	0.82	0.91	0.09	0.87	0.96





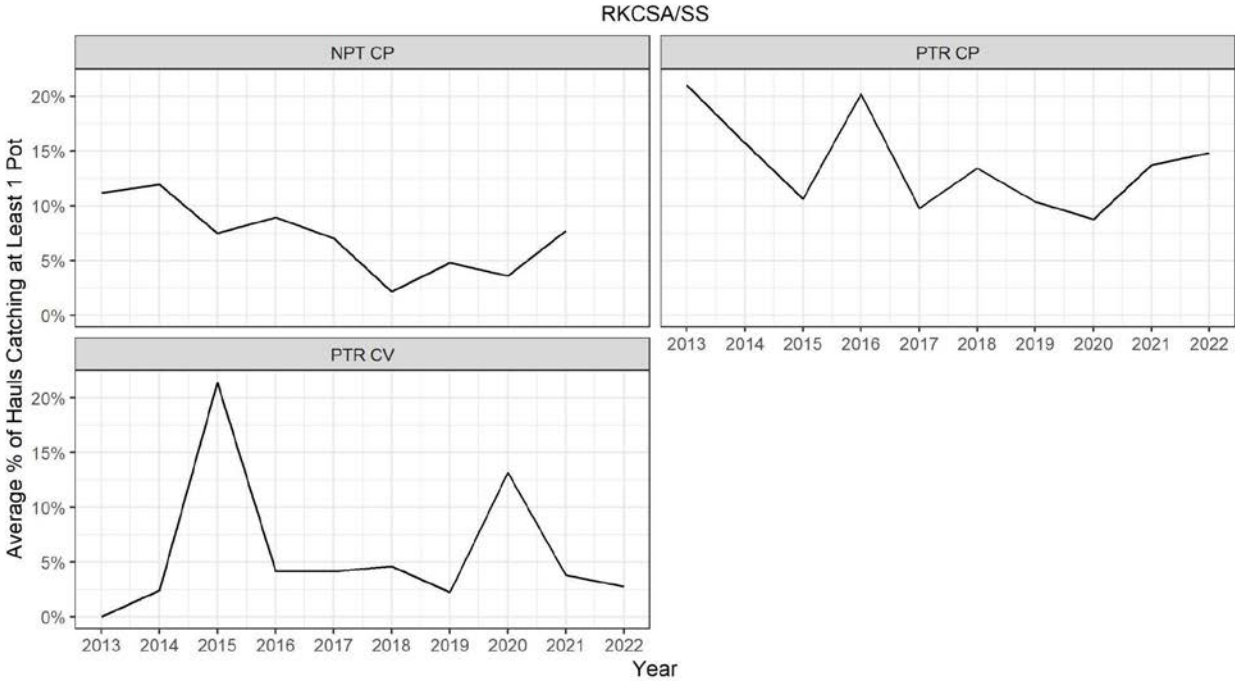


Figure 4.26. Time series of annual average pot catch rates (where at least one pot is caught per haul) within the red king crab savings area/subarea (RKCSA/SS) by pelagic (PTR) and nonpelagic (NPT) catcher-processor (CP) and catcher-vessel (CV) sectors. Note: NPT CV excluded due to minimal effort within the RKCSA/SS. PTR CV excludes data collected from the Trawl EM Program 2020-2022.



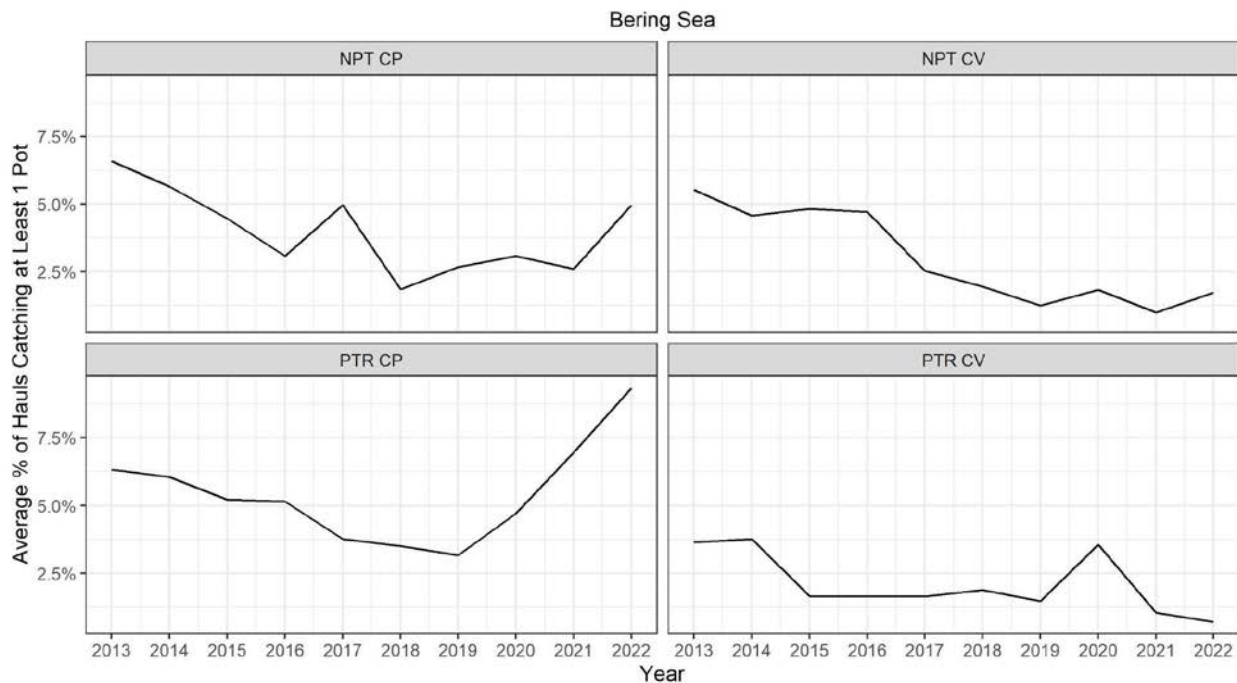


Figure 4.27. Time series of average pot catch rates (where at least one pot is caught per haul) within the Bering Sea by pelagic (PTR) and nonpelagic (NPT) catcher-processor (CP) and catcher-vessel (CV) sectors. Note: PTR CV excludes data collected from the Trawl EM Program 2020-2022.



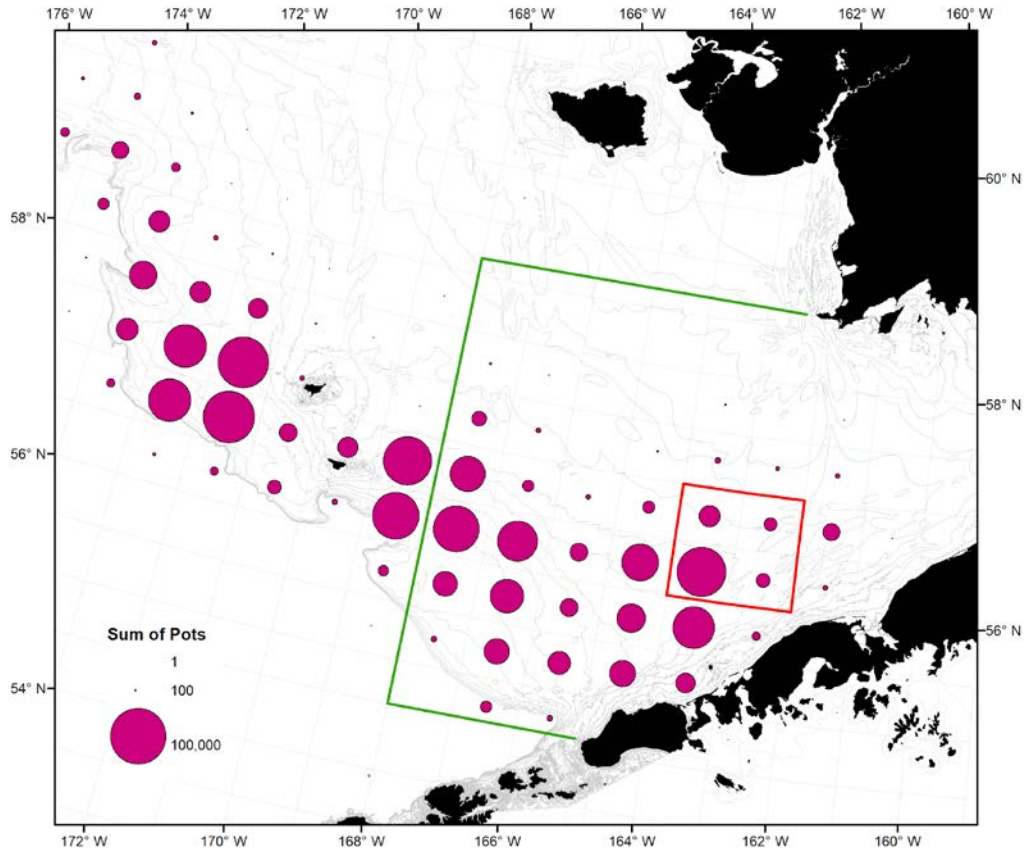


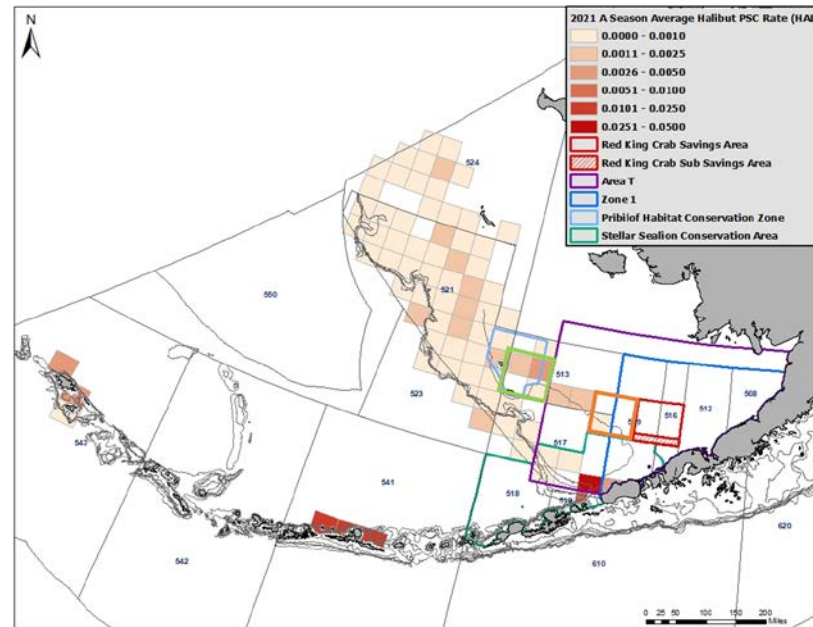
Figure 9.1 Tanner crab fishing effort from 2005-2022. Focusing on the eastern Tanner crab fishery (east of 166 W) 21% of pots fished on average in the RKCSA/SS.



Table 9.1 Estimated discards, discard mortality, and retained catch of red king crab (number of animals) for the eastern subdistrict of the bairdi Tanner crab fishery, 2005-2021 (Source: B. Daly, ADFG. July 2022. Pers. Comm.)

	Female catch (discard)	Male discard	Total discards	Discard mortality	Male catch (retained)
2005	No estimated catch or discards of RKC				
2006	982	7,811	8,793	2,198	44
2007	1,779	4,413	6,191	1,548	0
2008	5,210	6,201	11,410	2,853	0
2009	2,643	1,612	4,255	1,064	0
2010-2012	No estimated catch or discards of RKC				
2013	68,980	20,273	89,253	22,313	0
2014	65,623	34,403	100,026	25,006	1
2015	433,284	116,810	550,094	137,523	0
2016-2021	No estimated catch or discards of RKC				

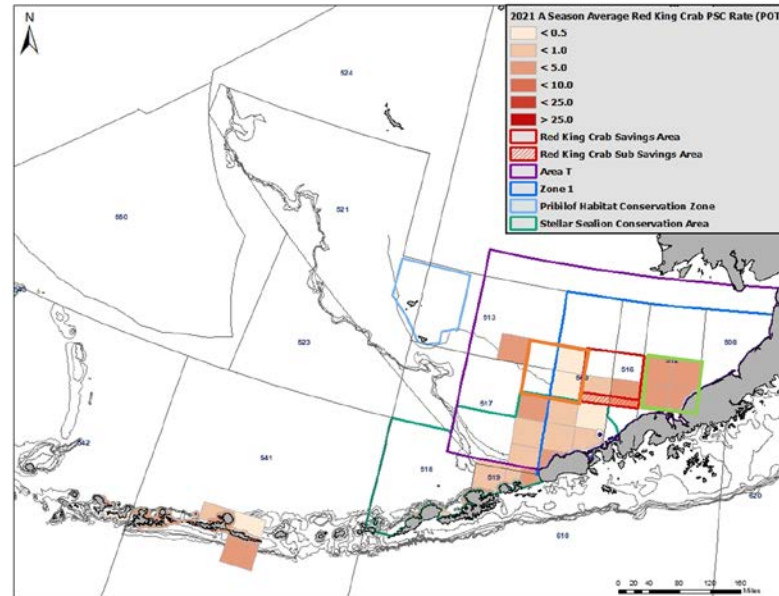




	Actual Halibut Mortality (mt)	Sum GF Weight (mt)	Rate	Est. Increase in Halibut Mortality
RKCSA/SS	0.00	0	0.000	
Adjacent	0.00	8	0.000	0
High Area	0.36	173	0.002	0

Figure 9.2 Examining possible changes in HAL gear halibut PSC with displacement of groundfish catch from in the RKCSA elsewhere for 2021, January through June. Red = RKCSA, Orange = adjacent area, and Green = area of high PSC. Estimated increase = (GF catch in RKCSA x rate in box) - PSC in RKCSA.





	Actual RKC PSC (# of crab)	Sum GF Weight (mt)	Rate	Est. Increase in RKC PSC
RKCSA/SS	303	312	0.971	
Adjacent	94	223	0.419	-172
High Area	2,213	1,727	1.282	97

Figure 9.3 Examining possible changes in POT gear RKC PSC with displacement of groundfish catch from in the RKCSA elsewhere for 2021, January through June. Red = RKCSA, Orange = adjacent area, and Green = area of high PSC. Estimated increase = (GF catch in RKCSA x rate in box) - PSC in RKCSA.



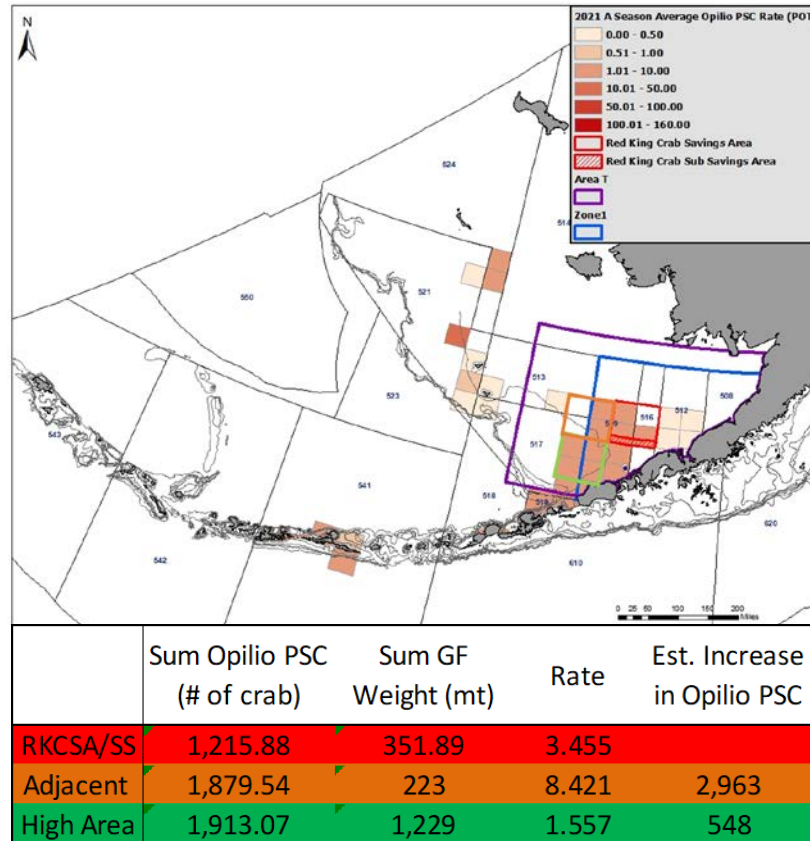


Figure 9.4 Examining possible changes in POT gear Opilio PSC with displacement of groundfish catch from in the RKCSA elsewhere for 2021, January through June. Red = RKCSA, Orange = adjacent area, and Green = area of high PSC. Estimated increase = (GF catch in RKCSA x rate in box) - PSC in RKCSA.



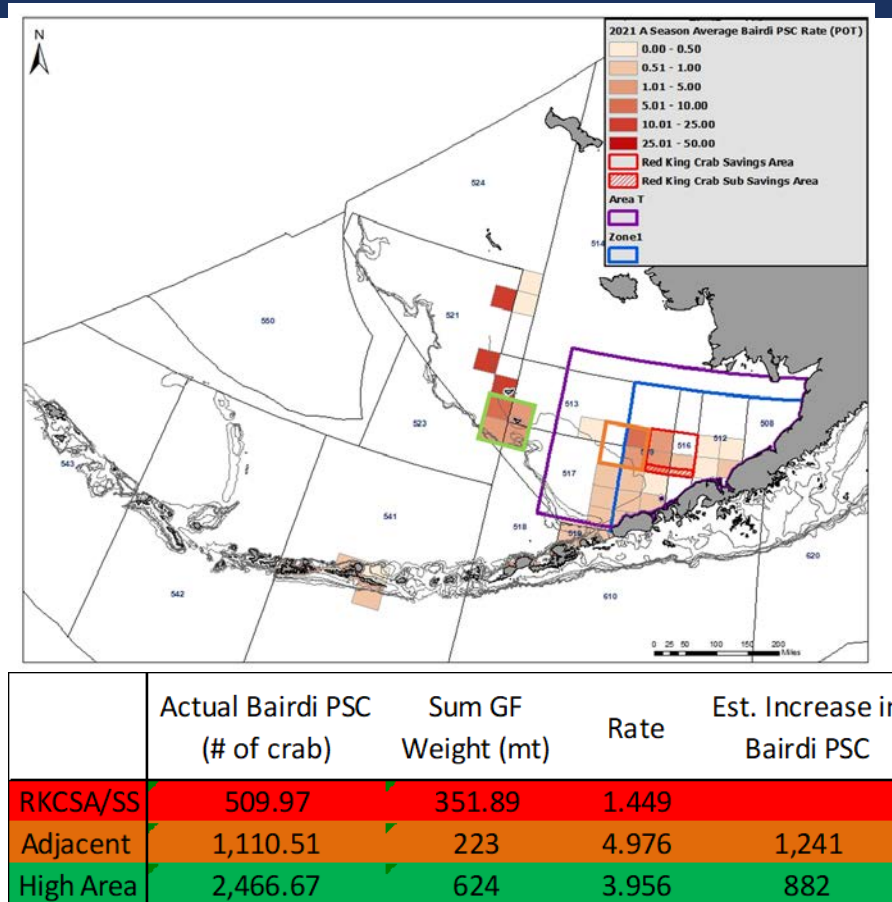
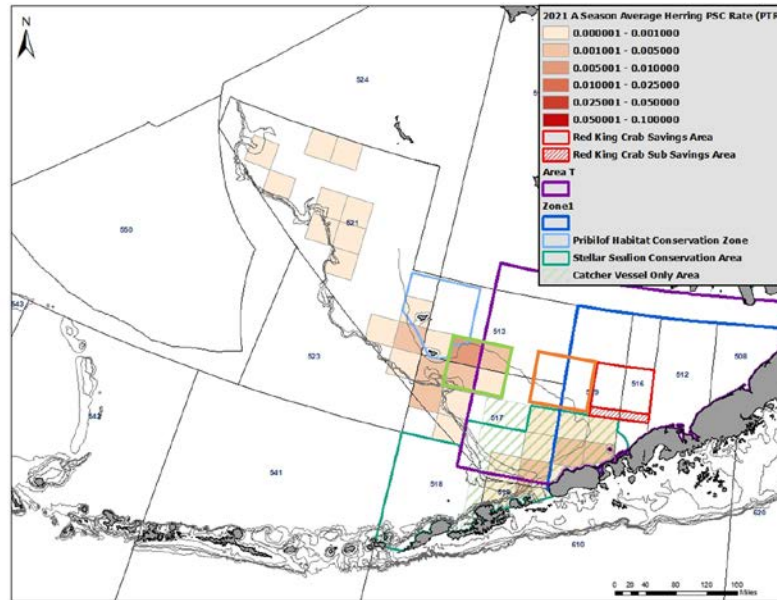


Figure 9.5 Examining possible changes in POT gear Bairdi PSC with displacement of groundfish catch from in the RKCSA elsewhere for 2021, January through June. Red = RKCSA, Orange = adjacent area, and Green = area of high PSC. Estimated increase = (GF catch in RKCSA x rate in box) - PSC in RKCSA.





	Actual Herring PSC (mt of fish)	Sum GF Weight (mt)	Rate	Est. Increase in Herring PSC
RKCSA/SS	0	72,632	0.000	
Adjacent	0	8,623	0.000	0
High Area	184	87,739	0.002	152

Figure 9.6 Examining possible changes in PTR gear herring PSC with displacement of groundfish catch from in the RKCSA elsewhere for 2021, January through June. Red = RKCSA, Orange = adjacent area, and Green = area of high PSC. Estimated increase = (GF catch in RKCSA x rate in box) - PSC in RKCSA.

