

Science, Service, Stewardship



BSAI Crab Rationalization

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NOAA
FISHERIES
SERVICE

Context: Bering Sea/Aleutian Islands Crab Fisheries

- 1989 FMP established joint Fed/State management, largely deferred to State
- 8 BSAI crab stocks under federal jurisdiction; 3 Sectors
- Processing plants in remote locations; “stranded capital”
- Community Development Quota Program (2002)
- Decline in harvests from historical highs in 80-90’s resulted in overcapitalization and derby fisheries
- June 2002 NPFMC motion to approve rationalization: Address management issues associated with race for fish
 - Improve resource conservation, utilization and management problems
 - Reduce bycatch and associated mortalities, and potential landing deadloss
 - Reduce excess harvesting and processing capacity, as well as low economic returns
 - Improve economic stability for harvesters, processors and coastal communities
 - High levels of occupational loss of life and injury

Trends: Consolidation/Longer Seasons

Fishery	Season	Number of vessels	Landed weight (lbs)	Average vessel harvest (lbs)	GHL/TAC	Season opening date	Season closing date	Length of season	Days fished †
Bristol Bay red king crab	2001	230	7,681,106	33,396	6.6	10/16	10/19	3	3
	2002	241	8,770,348	36,391	8.6	10/16	10/19	3	3
	2003	250	14,237,375	56,950	14.5	10/16	10/21	5	5
	2004	251	13,889,047	55,335	14.3	10/16	10/19	3	3
	2005/2006	89	16,472,400	185,083	16.5	10/15	1/15	93	89
	2006/2007	81	13,877,870	171,332	13.9				41
	2007/2008	74	18,324,046	247,622	18.3				90
	2008/2009	77	18,288,881	237,518	18.3				92
Bering Sea snow crab	2001	207	22,940,704	110,825	25.3	1/16	-	-	-
	2002	190	29,609,702	155,841	28.5	1/16	2/9	24	24
	2003	190	25,410,122	133,737	23.7	1/16	1/26	10	10
	2004	189	21,939,493	116,082	19.3	1/16	1/24	8	8
	2005	167	22,655,777	135,663	19.4	1/16	1/21	5	5
	2005/2006	78	33,248,009	426,257	33.5	10/15	5/15 (east) 5/31 (west)	229/230	213
	2006/2007	70	32,659,148	466,559	32.9				180
	2007/2008	78	56,722,400	727,210	56.7				175
	2008/2009	77	52,687,374	684,252	52.7				168

Source: BSAI Crab Economic SAFE (Draft), NOAA Alaska Fisheries Science Center, 2009

Trends: Less Consolidation in Processing Sector

PROCESSING IN THE BRISTOL BAY RED KING AND BERING SEA OPILIO CRAB FISHERIES

FISHERY	SEASON	PLANTS PROCESSING	MEAN LBS PROCESSED	MEAN % OF TOTAL PROCESSING
Bristol Bay red king	2001	17	433,230	5.9
	2002	17	498,344	5.9
	2003	20	677,865	5
	2004	17	781,547	5.9
	2005 - 2006	12	1,310,477	8.3
	2006 - 2007	12	1,103,850	8.3
	2007 - 2008	12	1,458,145	8.3
Bering Sea C. opilio	2002	17	1,643,446	5.9
	2003	17	1,447,451	5.9
	2004	18	1,181,935	5.6
	2005	14	1,571,915	7.1
	2005 - 2006	12	2,519,421	8.3
	2006 - 2007	11	2,700,638	9.1
	2007 - 2008	12	4,302,308	8.3

Source: BSAI Crab Economic SAFE (Draft), NOAA Alaska Fisheries Science Center, 2009

Current Issues

- Opilio 1991-2010 rebuilding plan failed target; revised rebuilding plan under development
- Bairdi closed under rebuilding 1999-2005, opened 2005-2009, projected to be overfished in 2010
- Three other fisheries closed since rationalization
- Bycatch in trawl fisheries may prompt additional area or fishery closures
- Russian crab imports
- High quota lease rates

Overview: primary features of the rationalization program

- Three sectors: harvest, shoreside processing, catcher/processors
- “Three pie” quota share system
- Transferrable/revocable QS; in-season IFQ leases
- Harvest cooperatives
- Use caps
- Initial allocation based on vessel/ plant history
- Community Development Quota
- Binding arbitration system
- Annual economic data collection
- Crew loan program
- Overage forfeiture/fines

Overview: “Three-pie” Quota Share System

- Harvest Quota Shares

- Catch QS of IFQ TAC in 8 fisheries allocated to vessel owners based on vessel catch history
- Annual application for IFQ permits;
- IFQ permits issued proportional to QS, denominated in pounds
- 97% of QS allocated to CV/CP owners; 3% allocated to captains based on personal catch history (“C Shares”)
- Owner QS: 90% Class A Shares/10% Class B Shares
- A shares subject to IPQ share matching/regional delivery restrictions
- B, C, and CDQ shares exempt from share matching

Overview: "Three-pie" Quota Share System

- Processor Quota Shares
 - PQS in 8 fisheries allocated to plants based on historical share of total processing, similar to QS allocation in harvest sector
 - IPQ issued for 90% of IFQ pool, corresponding to Class A Shares
 - Transferable as PQS sale or IPQ lease, subject to limitations
 - 30% use caps within most fisheries, with exceptions
 - 2-year "cooling off" period of community of origin retention of PQS followed by ROFR to community/CDQ
 - Class A IFQ / IPQ subject to North/South designation (WAI Golden E/W designation)
 - Regionalization based on historical distribution of landings and processing
 - Share matching
 - Crew share allocation
 - Regional processor share designations

Overview: Additional elements of rationalization program

- **Harvest Cooperatives**

- Included in rationalization program to improve efficiency of quota use and permit coordination of harvest and deliveries to processors
- Quota owners assign IFQ to coop, no further monitoring by NMFS
- Initially formed based on existing business relationships; evolving toward a more uniform umbrella coop structure

Overview: Monitoring and reporting elements of rationalization program

Economic Data Collection

- Historical and Annual survey
- Costs
 - variable, some fixed
 - stratified by fishery, location
- Revenues
 - exvessel, product sales, custom processing, royalties
- Employment and compensation
- Production details

Observer Program

- Effort
- Discards

Administrative

- Electronic inseason catch accounting
- QS and IFQ/IPQ transfer and use

VMS

Monitoring and Performance Measures

Issue: Excess Harvesting and Processing Capacity and Low Economic Returns

- Harvesting capacity and capacity utilization (CU)
- Processing capacity and capacity utilization
- Harvesting sector profit for BSAI crab only (total revenue - total cost)
- Harvesting sector quasi-rent for BSAI crab only (total revenue - total variable cost)
- Processing sector profit for BSAI crab only
- Processing sector quasi rent for BSAI crab only
- Harvesting sector productivity and efficiency
- Processing sector productivity and efficiency
- Management costs
- Vessel safety
- Number of days at sea by weather risk level
- Pots carried or fished per trip by vessel class

Monitoring and Performance Measures

Issue: Lack of Economic Stability for Harvesters, Processors and Coastal Communities

- Distribution of catch and ex- vessel revenue by vessel class, port of landing, and residence
- Distribution of processed product revenue by community and processor or processor category
- Distribution of profits and quasi rents within and between the harvesting and processing sectors
- Distribution of harvester use rights by vessel class
- Distributions of harvester and processor use rights by processor or processor category
- Seasonality of catch and ex- vessel revenue by vessel class, port of landing, and residence
- Processor ownership interest in BSAI crab catcher vessels and harvester QS/catch history
- Catcher vessel ownership interest in BSAI crab processors and processing QS/catch history

Monitoring and Performance Measures

Issue: Lack of Economic Stability for Harvesters, Processors and Coastal Communities (cont)

- Degree of involvement of BSAI crab harvesters and processors in other AK fisheries
- Value of use right
- Regional economic impacts (employment and income) of the BSAI crab fisheries
- Concentration of domestic and foreign ownership in the BSAI crab harvesting and processing sectors
- Level and distribution of harvesting and processing sector employment and payments to labor (number of individuals, hours/days worked, and income)

Issue: High Levels of Loss of Life and Injury

- Occupational injuries
- Vessel safety
- Number of days at sea by weather risk level
- Pots carried or fished per trip by vessel class

Implementation of Performance Measures

- 18 Month, 3-Year, 5-Year Program Reviews, with analytical objectives tasked by Council
- Monitoring intended to allow broad analysis of program performance
- Crab Economic SAFE under development to integrate data sources, annually report performance metrics
- Key metrics impeded by data quality issues
 - Quota costs
 - Fuel Costs
 - Location of purchase information
 - Quasi-rents
 - Regional impacts