

B-5

Agenda Item: "B-4"



**ALASKA DEPARTMENT OF FISH AND GAME
REPORT TO THE NORTH PACIFIC FISHERY MANAGEMENT
COUNCIL
FEBRUARY 2006**

Fisheries managed by the State of Alaska since the last council report include salmon, crab and groundfish.

Salmon Troll Fishery (FIGURE 1)

The Southeast Alaska/Yakutat winter troll fishery for chinook salmon began October 11, 2005 and will be open through April 30, 2006 or until a total of 45,000 chinook salmon are harvested. The fishery is confined to waters east of the "winter boundary line" and includes waters of Yakutat Bay. Approximately 300 permits are participating in the fishery, although recent effort has dropped to less than three dozen vessels. This is typical at this time for this fishery. With catch rates lower than past averages, recent prices are well above those paid in the past, with some processors paying up to \$6.00 per pound.

Aleutian Islands Golden king crab (FIGURE 2)

The rationalized Aleutian Islands golden king crab fishery opened by regulation on August 15, 2005. The Total Allowable Catch (TAC) for the fishery is divided at 174° West longitude, with the eastern portion assigned a TAC of 3.0 million pounds (2.7 million to IFQ, 0.3 million to CDQ) while the western portion was assigned a TAC of 2.7 million pounds (2.43 million IFQ and 0.27 to the newly created Adak Community Allocation (ACA)). Harvest to date has reached approximately 94 percent and 66 percent of the IFQ portion of the TAC for each respective portion, totaling approximately 5.1 million pounds for the entire golden king crab fishery.

Bristol Bay red king crab (FIGURE 3)

The Bristol Bay red king crab TAC was set at 18.329 million, or approximately 16.496 million pounds for the IFQ fishery. There were 89 boats registered for the fishery, with just several boats mopping up their balances at this time.

Approximately 16.44 million pounds of IFQ king crab has been landed through to date. Average price was reported to be about \$4.25 per pound, with a Catch Per Unit of Effort (CPUE) of about 23 legals per pot pulled.

Bering Sea Snow and Tanner crab (FIGURES 4a, 4b)

The season for snow and Tanner crab in the Bering Sea opened on October 15, 2005. The Bering Sea snow crab TAC was set at 33.47 million pounds, while the Tanner crab TAC was set at of about 1.46 million pounds. Effort in these fisheries has only just recently elevated to meet existing market conditions. Effort also remains somewhat limited in view of the strong market for Pacific cod, with prices for cod about \$0.40 per pound, or double that paid last season in this area. Snow crab are now being sold for between \$.60 to \$1.00 per pound, while Tanner crab are selling for approximately \$.60 to \$1.30 per pound. Reportedly prices are quite variable depending upon the processor and delivery location. There are currently 43 vessels registered for snow crab. The CPUE is ranging from 175 to 215 large males per pot. St. Paul is still ice free, but freezing spray and pack ice have been reducing harvester efficiency. Landings of opilio crab totaled about 6.1 million

pounds at the end of January 2006. Bering Sea Tanner totals were about 271,000 pounds.

Central Region Pacific Cod (FIGURE 5)

Prince William Sound

The 2006 Prince William Sound state managed Pacific cod season will open seven days after the close of the federal fishery. The GHL has been set at 910,730 pounds, which is calculated as 10 percent of the federal Eastern Gulf ABC.

Cook Inlet

The GHL for the 2006 state waters season is 3,131,088 pounds. That GHL is calculated as 3.75 percent of the Acceptable Biological Catch (ABC) for the federal Central Gulf of Alaska area. In Cook Inlet, the state waters fishery will open twenty-four hours after the close of the federal fishery. Given poor weather and the possibility of Mount Augustine volcanic eruptions in the Lower Cook Inlet area, fishing has been relatively limited for those vessels pursuing the federal TAC this season.

Westward Region Pacific Cod

Kodiak Pacific Cod (FIGURE 6)

The 2006 Kodiak fishery will open seven days after the close of the federal fishery. The GHL is 10.43 million pounds, which is 12.5 percent of the Central Gulf of Alaska ABC. The GHL is allocated 50 percent to mechanical jig and hand troll gears and 50 percent to pot gear. Harvests in federal waters are reported to be slower than in past years.

Chignik Pacific Cod (FIGURE 7)

The Chignik area Pacific cod season will open by regulation on March 1, 2006. The GHL is 7.3 million pounds, which is calculated as 8.75 percent of the Central Gulf of Alaska ABC. The GHL is split to allow pot fishermen 90 percent of the quota.

South Alaska Peninsula Pacific Cod (FIGURE 8)

The 2006 Pacific cod fishery in the South Alaska Peninsula will open seven days after the closure of the federal fishery in the Western Gulf of Alaska. The GHL is 14.8 million pounds, which is 25 percent of the Western Gulf of Alaska ABC. The harvest is allocated 85 percent to pot gear and 15 percent to jig gear.

Southeast Groundfish (FIGURE 9)

The Demersal Shelf Rockfish fishery is open in the waters of the Northern Southeast Inside (NSEI) and a portion Southern Southeast Inside (SSEI) areas only. There has only been one landing since the start of the year

Pacific cod is open in NSEI and SSEI areas as well. Similarly, there has been only one landing to date in that fishery.

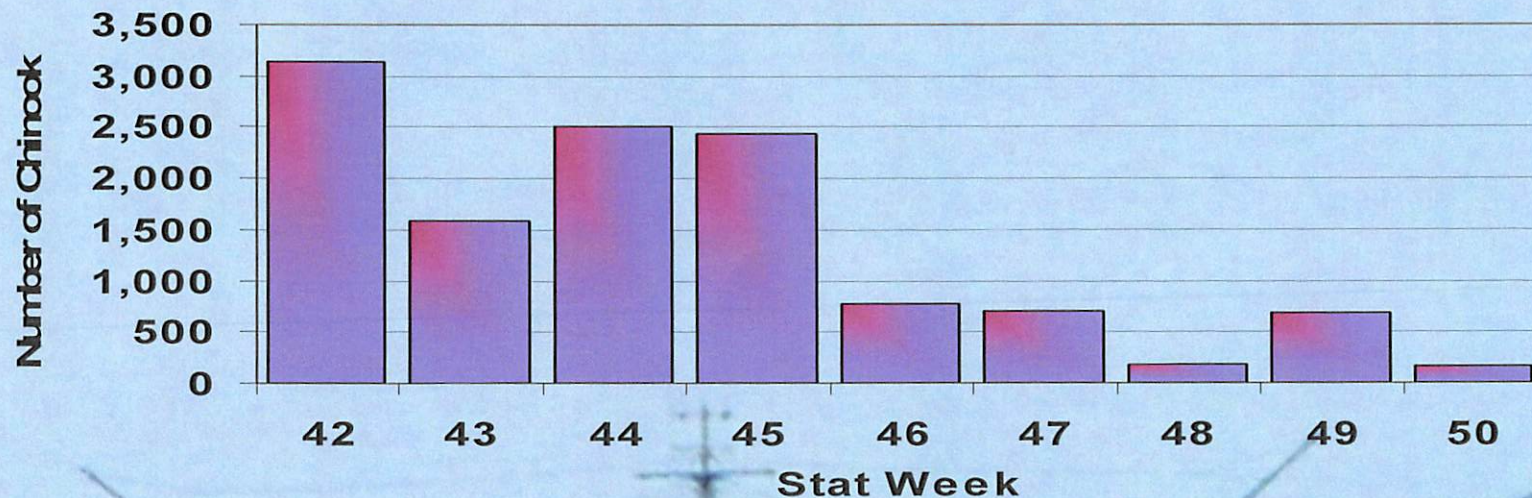
The Black rockfish fishery is open to directed fishing in the Southeast Outside districts. There has been no effort to date.

**ALASKA DEPARTMENT OF FISH AND GAME
REPORT TO THE NPFMC
Agenda Item B-4**



February 2006

SE AK 2006 WINTER TROLL FISHERY



Troll Year	Permits	Landings	Number	Ave Price	Ave Wt.	Chinook/landing
*2006	300	1,610	14,700	\$6.00	13	9.1
2005	441	4,057	50,417	\$5.64	13.1	12.4
5-year ave.	372	3,092	41,232	\$4.34	14.1	13.3
10-year ave.	323	2,370	33,637	\$3.69	15	14.2

FIGURE 2.
ALEUTIAN ISLANDS GOLDEN KING CRAB HARVESTS

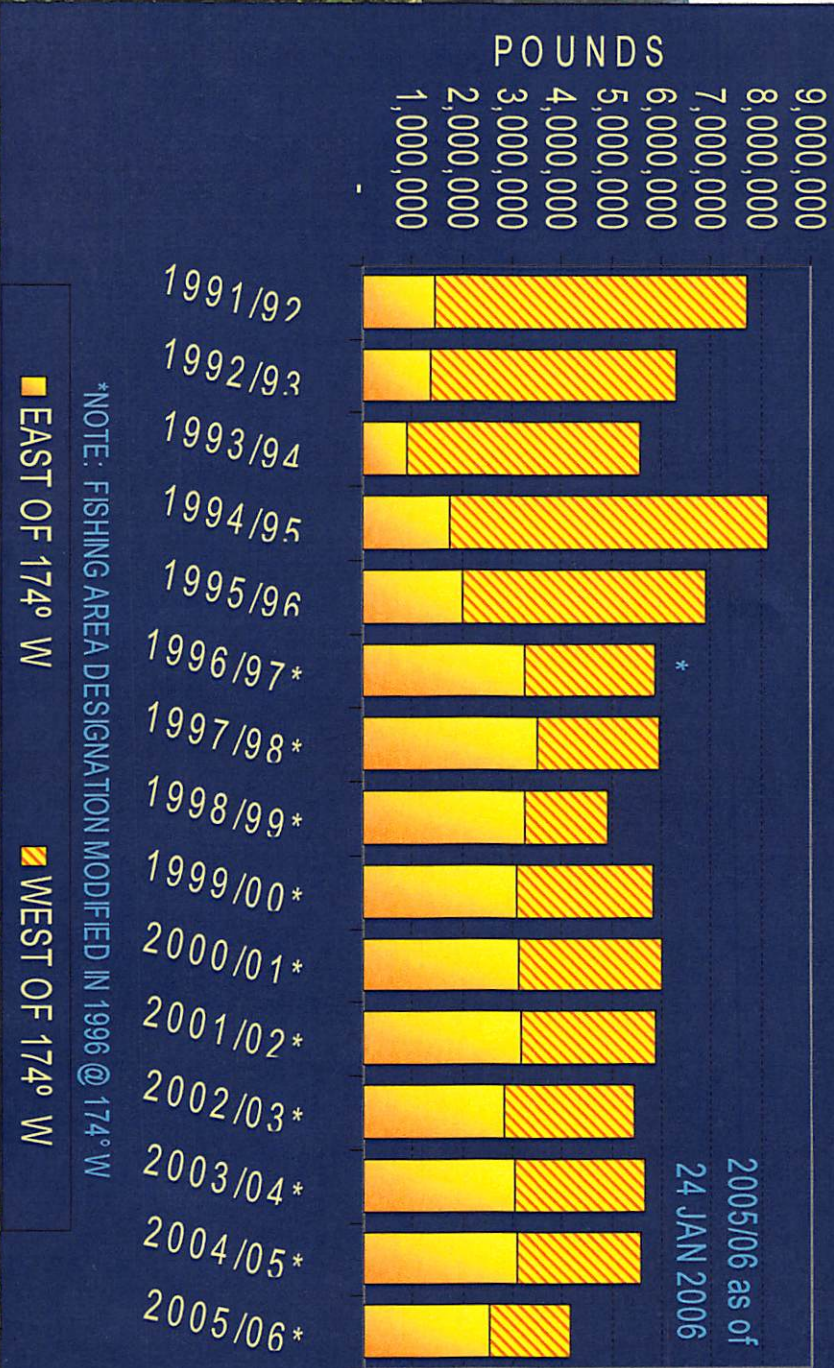


Figure 3.

Bristol Bay Red King Crab Catches

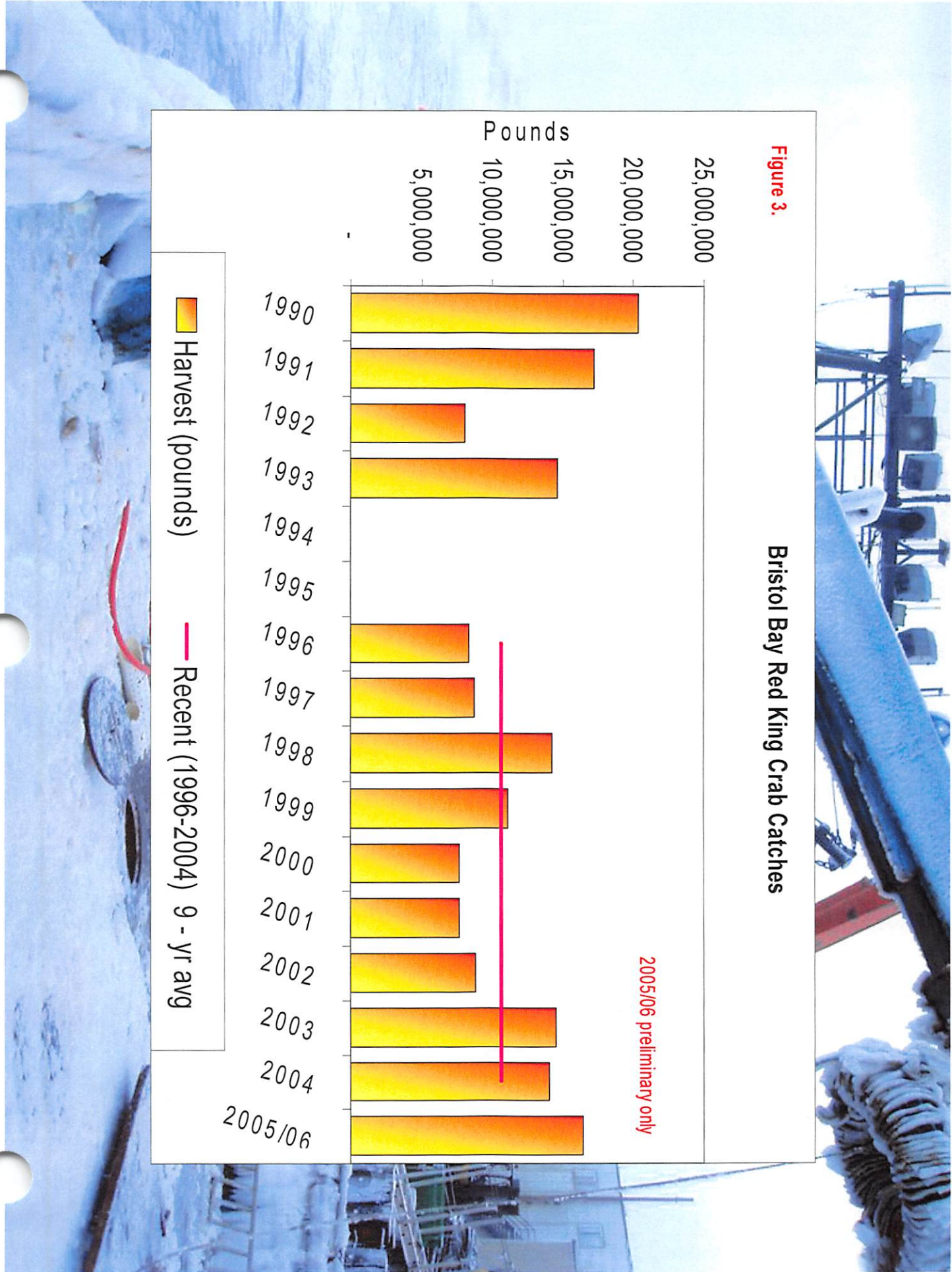
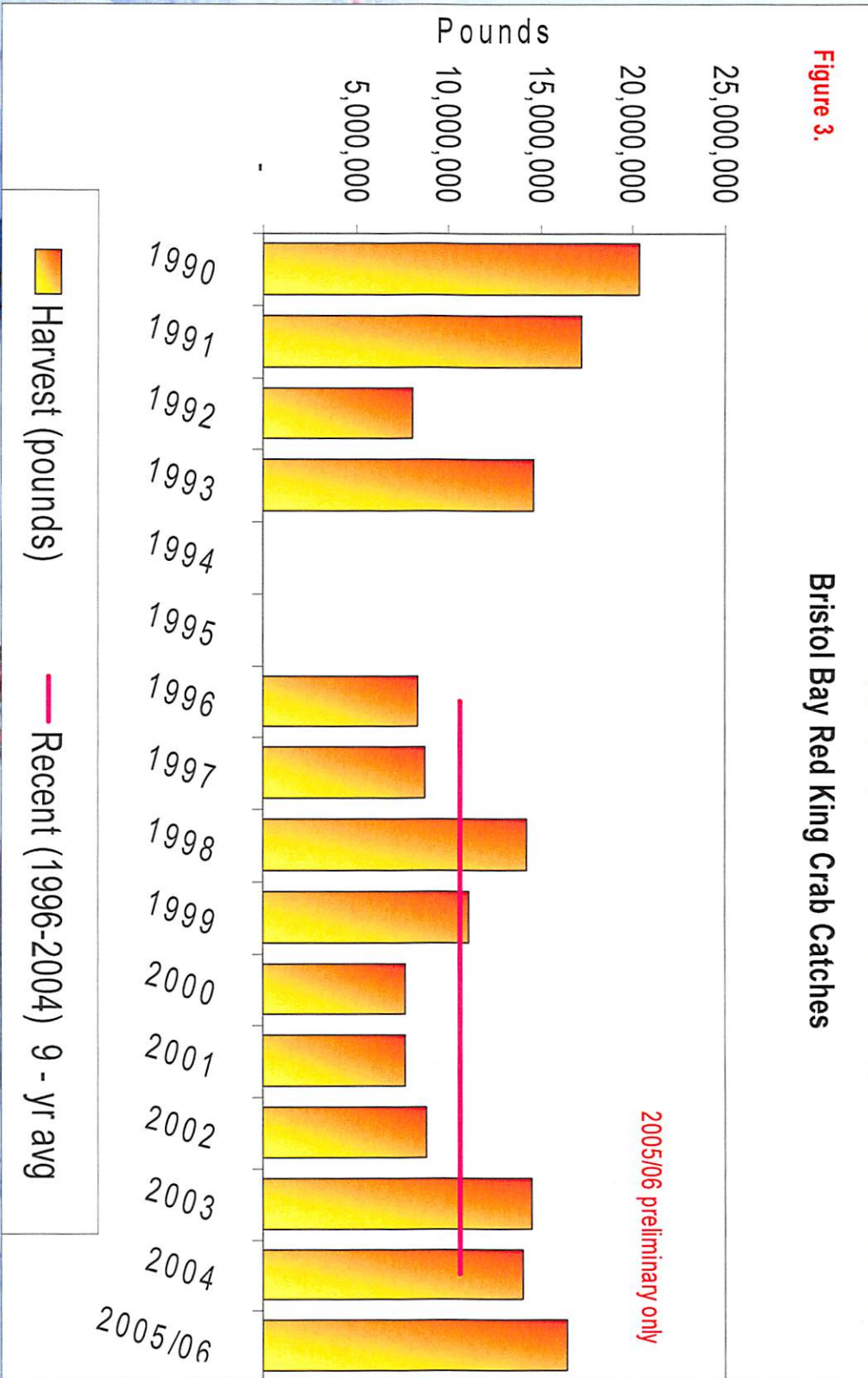


Figure 4a.

Bering Sea *C. opilio* General Fishery Catches, with 2005/05 TAC

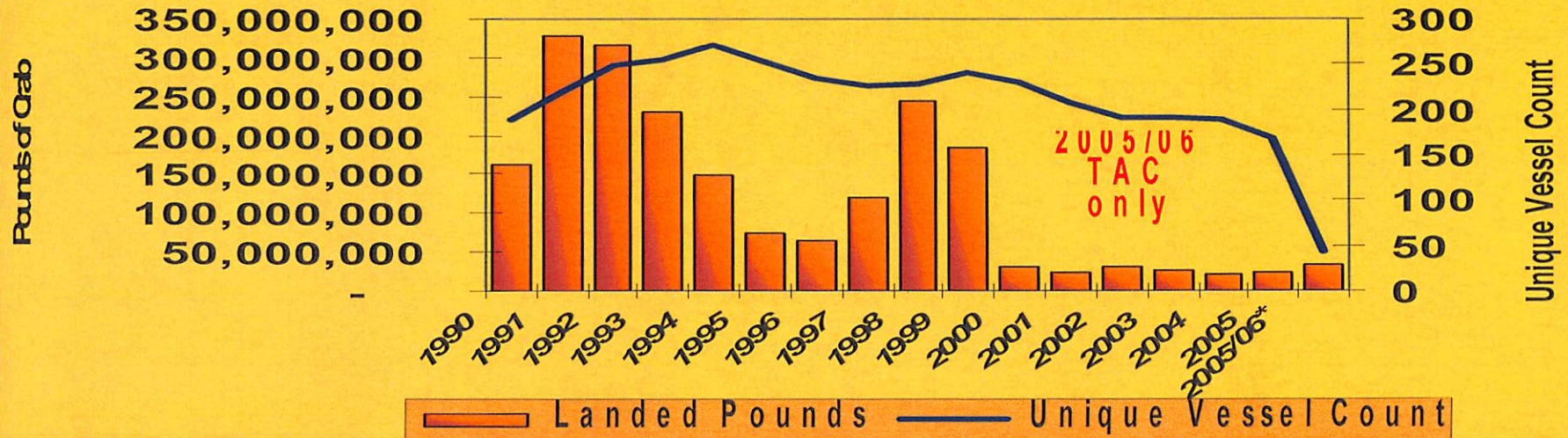


Figure 4b

Bering Sea *C. bairdi* General Fishery Catches, with 2005/05 IFQ TAC

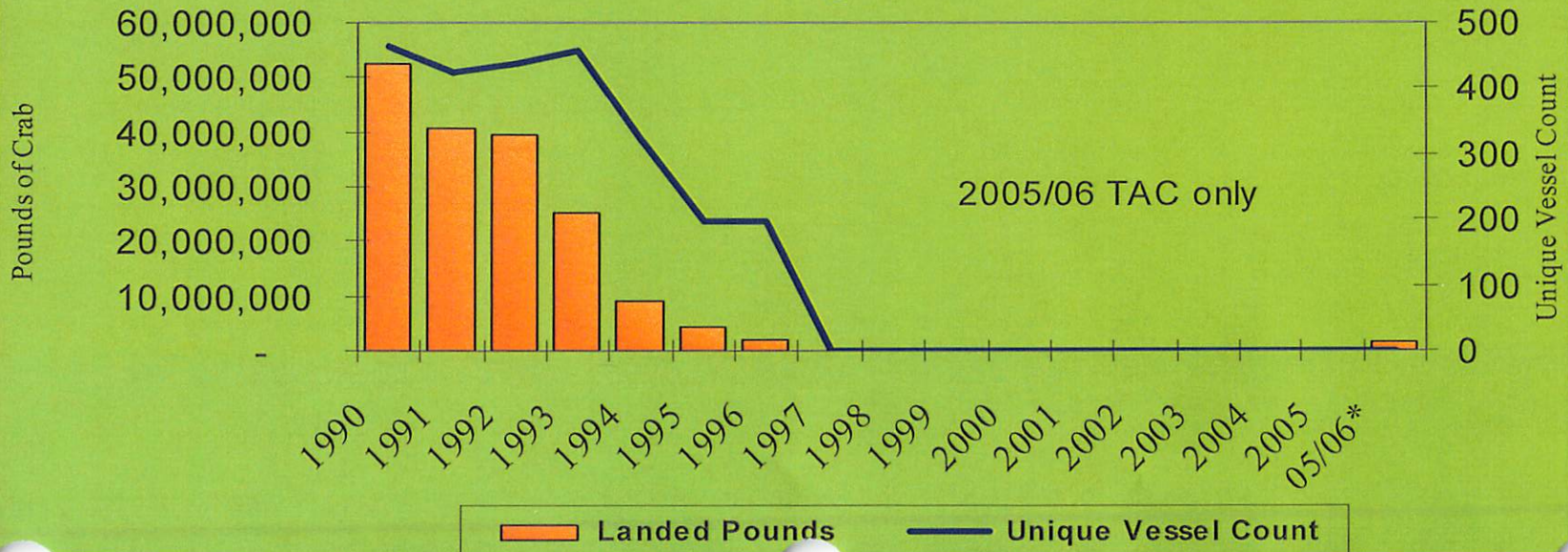


Figure 5. 2006 harvest guideline, effort, and catch reported for state water fisheries through January 27

This summary censored for CONFIDENTIAL reports or records (fewer than 4 participants).

Pacific Cod

PARALLEL SEASON - STATE WATERS

	Cook Inlet Management Area			Prince William Sound		
	Vessels	Landings	Pounds	Vessels	Landings	Pounds
Gear						
Hand troll	0	0	0	0	0	0
Jigs	0	0	0	0	0	0
Trawl	0	0	0	0	0	0
Longline	0	0	0	0	0	0
Pots	4	26	128,985	0	0	0
Totals	4	26	128,985	0	0	0
Status	Open			Open		
Federal seasons:	Directed Opened - Closed			Directed Opened - Closed		
Central Gulf	Jan 1 -			Jan 1 -		

Parallel season concurrent with federal waters of the Central Gulf of Alaska (CGOA).

Totals include Pacific Cod bycatch to other directed fisheries e.g. halibut & sablefish.

Pacific Cod

***STATE MANAGED - STATE WATERS**

	*Cook Inlet Management Area			*Prince William Sound		
	Vessels	Landings	Pounds	Vessels	Landings	Pounds
GHL (lb)		3,131,088			910,730	
Gear						
Hand troll	0	0	0	0	0	0
Jigs	0	0	0	0	0	0
Pots < 58'	0	0	0	0	0	0
Pots > 58'	0	0	0	0	0	0
Totals	0	0	0	0	0	0
State seasons:	Opened - Closed			Opened - Closed		
Jigs	0			0		
*Status	Closed			Closed		
Pots	Opened - Closed			Opened - Closed		
	0			0		
	0			0		
	Sept 1 -			0		
*Status	Closed			Closed		

*The state managed fishery for Pacific cod opens by emergency order to pot and jig gear under exclusive area registration 24 hours after the Federal closure in Cook Inlet and 7 days in PW S.

Includes only directed fishery harvest.

Figure 6.

Kodiak State Managed Pacific Cod Catches, 2005

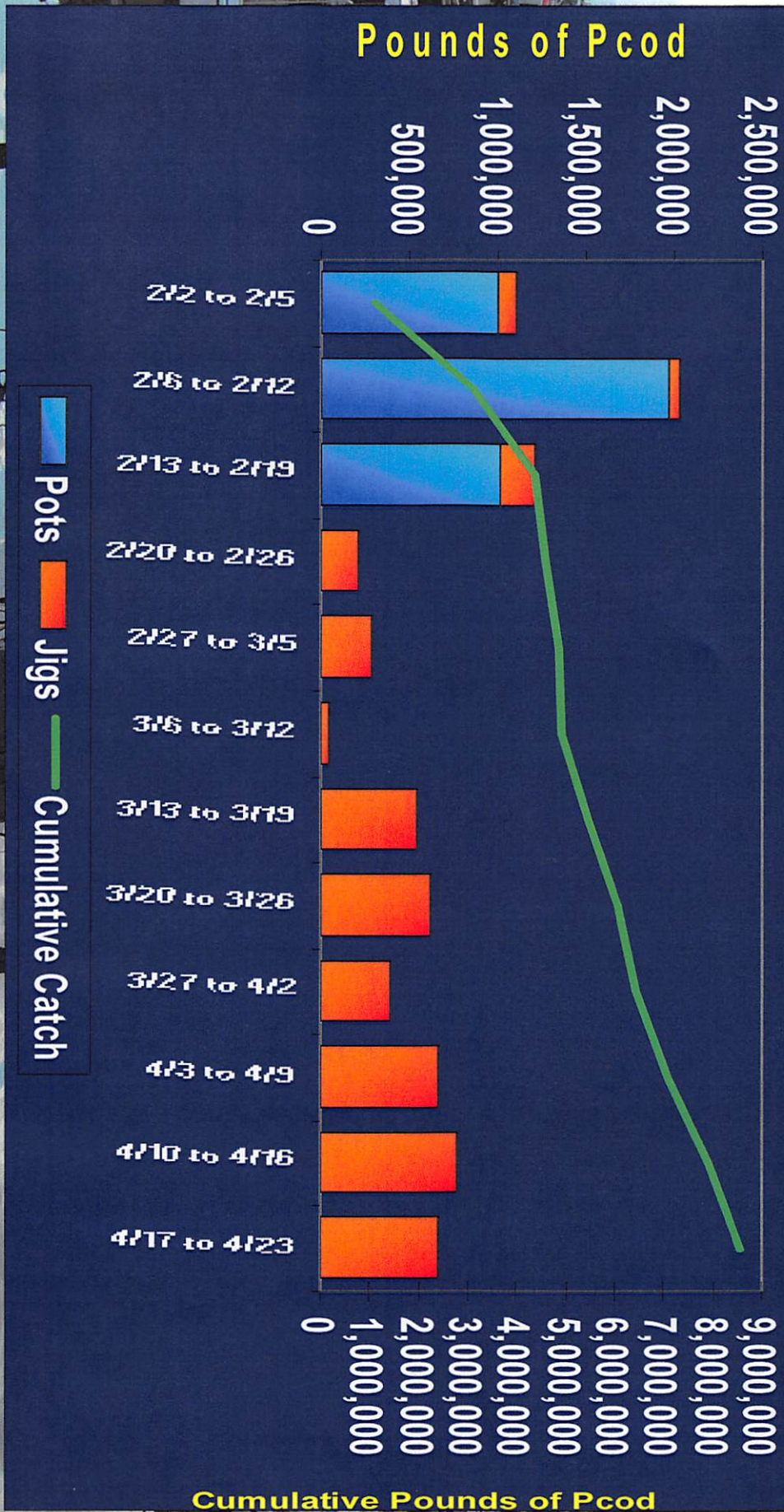


Figure 7.

Chignik State Managed Pacific Cod Catches, 2005

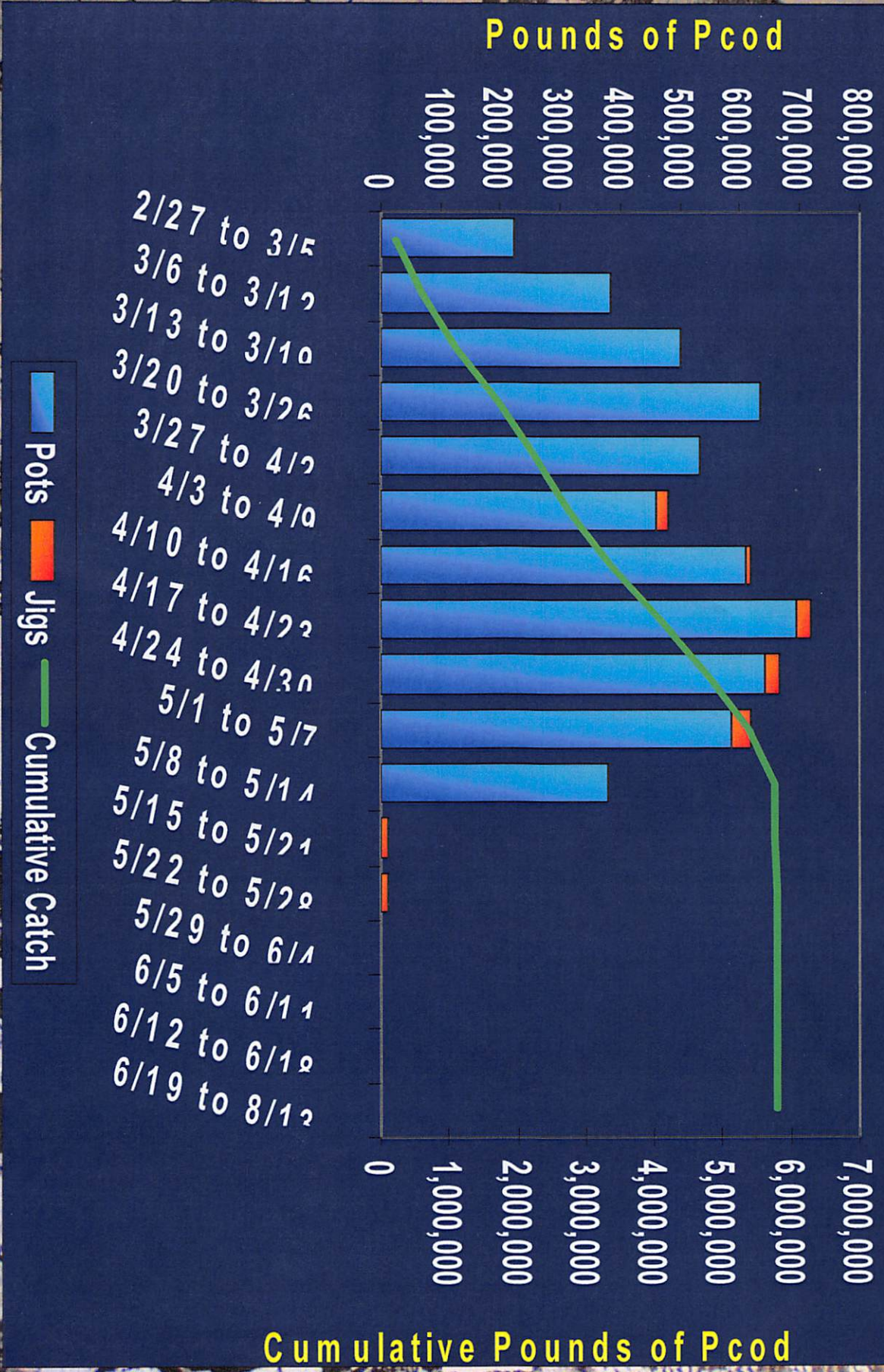
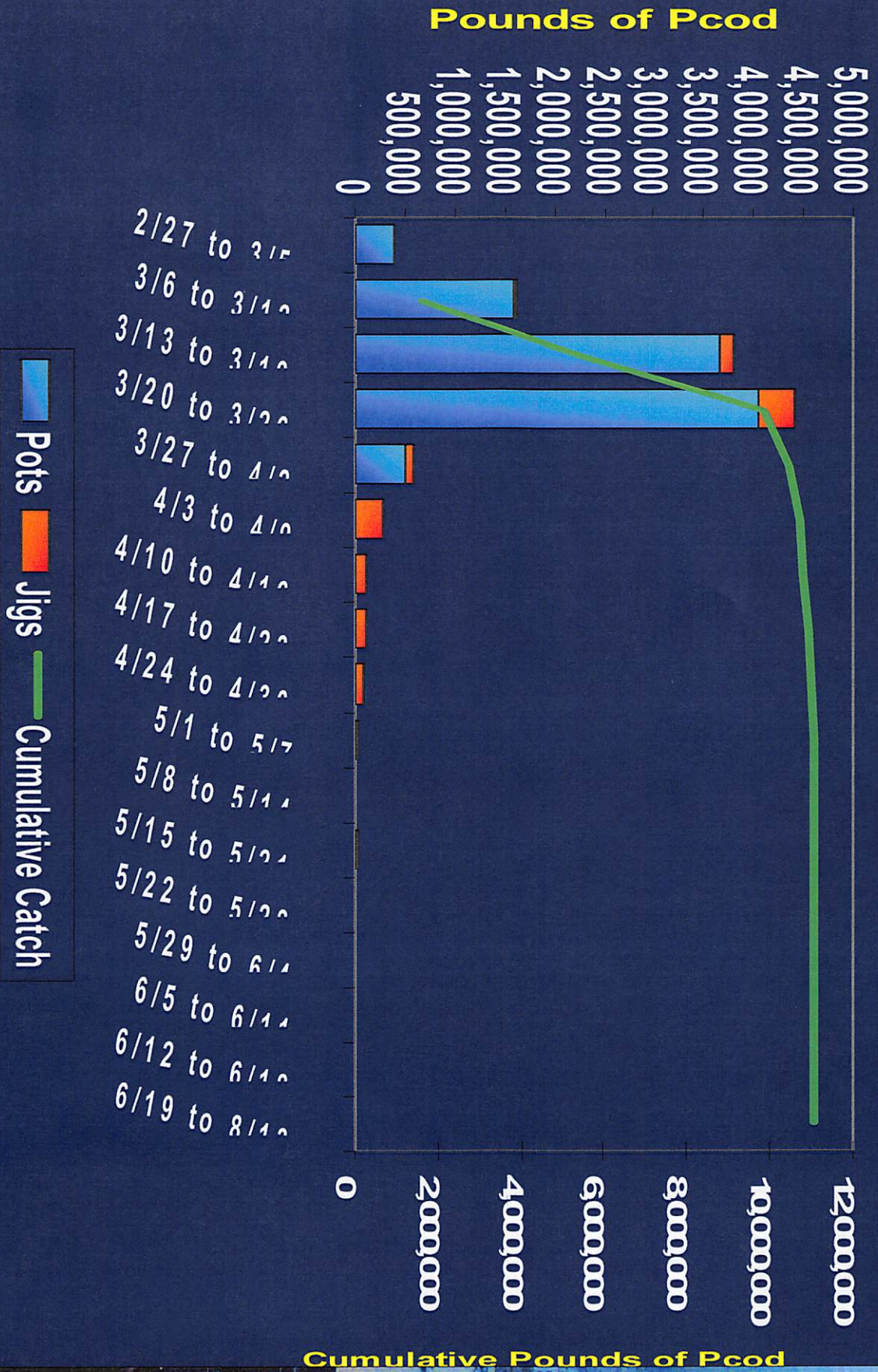
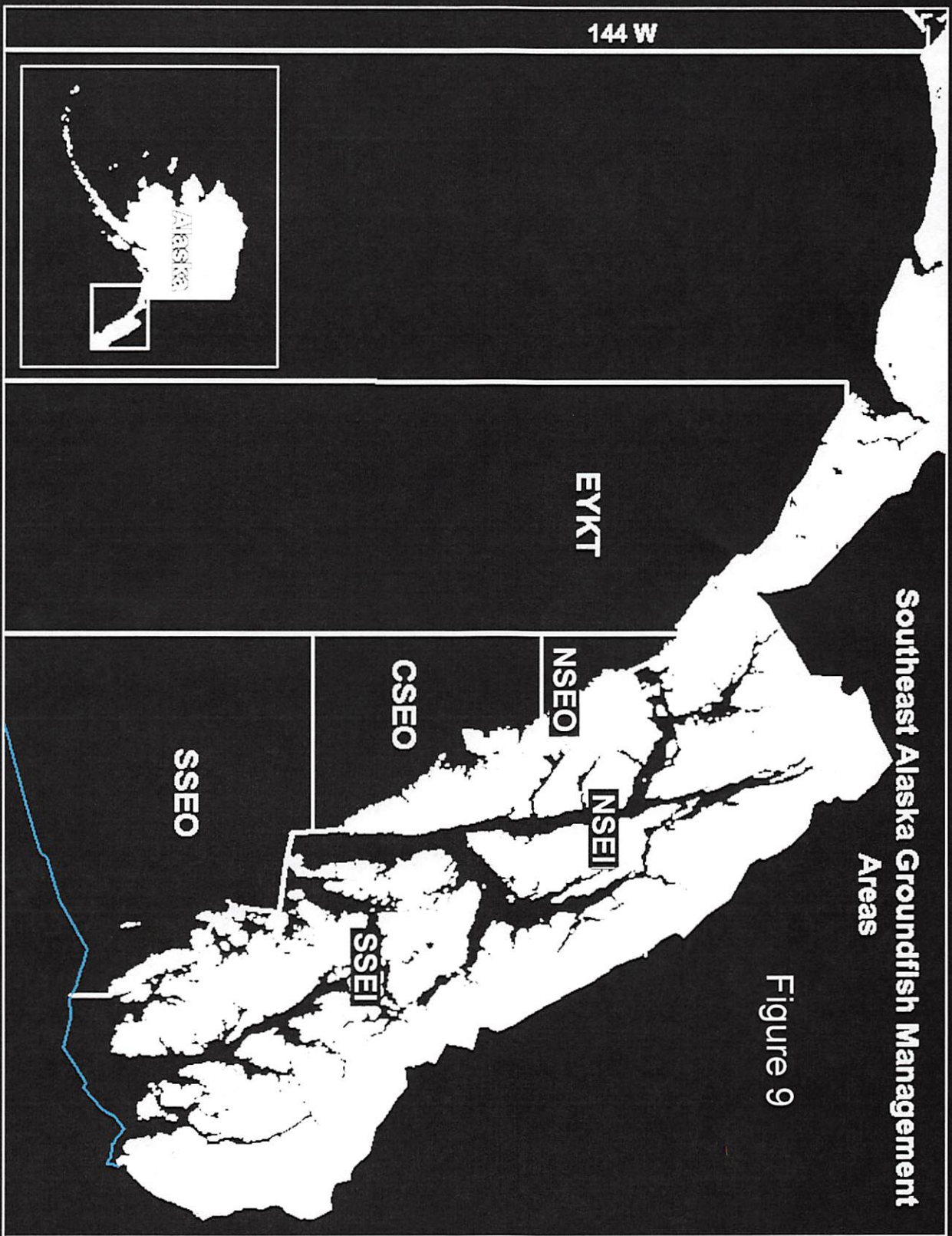


Figure 8.

S Ak Peninsula State Managed Pacific Cod Catches, 2005





Southeast Alaska Groundfish Management Areas

Figure 9

END



**Estimation of Pacific Halibut Harvest by
Recreational Anglers in
IPHC Areas 2C and 3A**

February 8, 2006

**Estimation of Pacific Halibut Harvest by
Recreational Anglers in
IPHC Areas 2C and 3A**

Presentation to the North Pacific Fishery
Management Council (NPFMC) at the 175th Plenary
Session- 8 February 2006, Seattle, WA

by Allen E. Bingham
Alaska Department of Fish and Game
Division of Sport Fish
Anchorage

**Estimation of Recreational Pacific Halibut
Harvest – IPHC 2C and 3A**

Separate Sample Survey Projects Used to Estimate:

- Annual Mail Survey of Households with
Licensed Anglers - Fish Kept by User Group
(Charter versus Private) – In Numbers of Fish
- “Catch Sampling” and On-site “Creel” Survey of
Recreational Anglers in Major Ports of 2C and
3A

**Estimation of Recreational Pacific Halibut
Harvest – IPHC 2C and 3A**

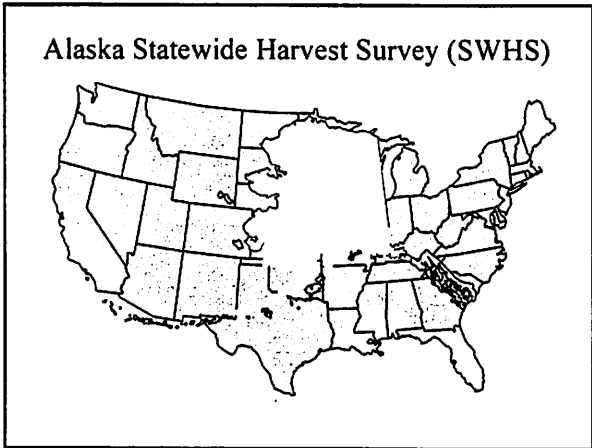
Separate Sample Survey Projects Used to Estimate:

- Annual Mail Survey:
ESTIMATE NUMBERS
- “Catch Sampling” and Creel:
ESTIMATE MEAN WEIGHTS

Estimates from these two types of surveys are
combined to obtain:
ESTIMATE OF HARVEST IN POUNDS

Annual Mail Survey
Alaska Statewide Harvest Survey (SWHS)

- Statewide – Annual Survey
- Primary Goal to Obtain Estimates of Angler Participation (Effort), Catch and Harvest of Fish Species on a Site-by-Site Basis
- Not Specifically Designed to Estimate Any One Particular Species of Fish
- Precision and Accuracy is Related to the “Size” of Fishery Described



Alaska Statewide Harvest Survey

- Self-Administered Mail-back Questionnaires
- Annual Survey
- First Year - 1977

Alaska Statewide Harvest Survey

- Self-Administered Mail-back Questionnaires
- Annual Survey
- First Year - 1977
- Over 300 Separate Locations Covered:
 - 211 Freshwater Sites
 - 100 Separate Saltwater Locations

Alaska Statewide Harvest Survey

- Self-Administered Mail-back Questionnaires
- Annual Survey
- First Year - 1977
- Over 400 Separate Locations Covered
- Households with Licensed Anglers
- About 45,000-50,000 Households Sampled
- From A Total of About 250,000 Households Throughout the World

Self-Administered Mail-back Questionnaires

- Can Produce Poor Estimates Due To:
 - Response Bias
 - Nonresponse Bias

Alaska SWHS – Bias Issues

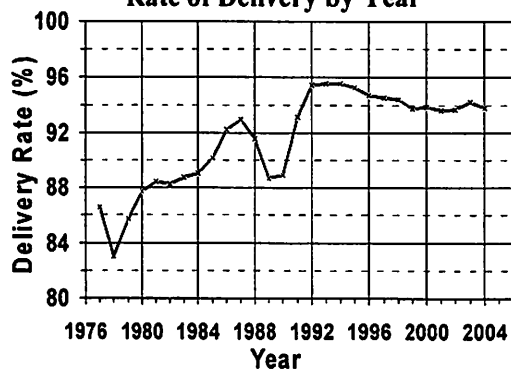
Self-Administered Mail-back Questionnaires –
Bias Issues Addressed:

- Response Bias --- Addressed by Careful Design (and in some cases – Redesign) of Questionnaire - for example question wording, layout, examples, maps, etc.
- Nonresponse Bias --- Addressed by Nonresponse Bias (NRB) Correction Procedure that Attempts to Model the Nonrespondent's Behavior

Alaska Statewide Harvest Survey

- Sources of Unit Nonresponse
– Failure to Deliver the Survey to the Potential Respondent

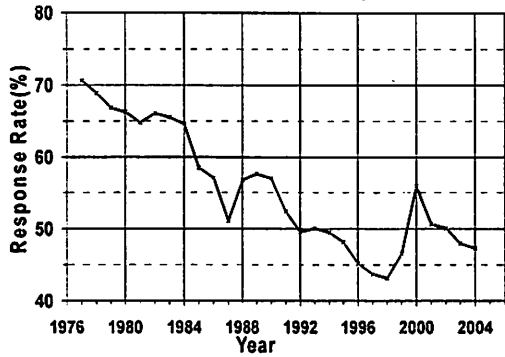
Rate of Delivery by Year



Alaska Statewide Harvest Survey

- Sources of Unit Nonresponse
 - Failure to Deliver the Survey to the Potential Respondent
 - Potential Respondents that Fail to Complete and/or Return the Survey

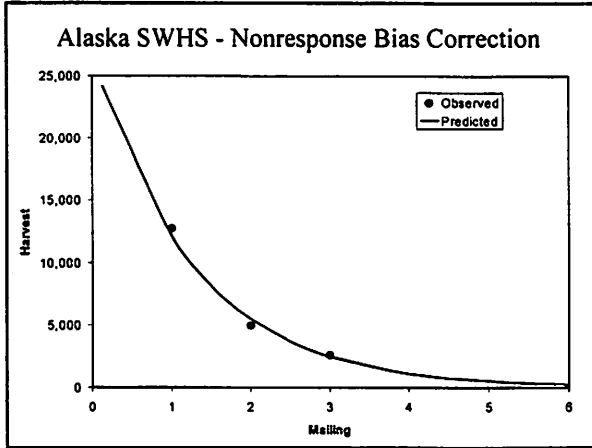
Total Response Rate by Year

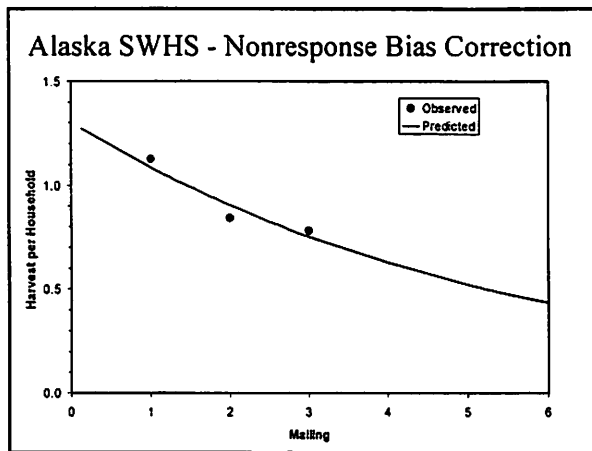


Alaska SWHS

Nonresponse Bias Correction

- Nonrespondents Tend to Participate Less in Recreational Fishing Activities Compared to Respondents (Brown and Wilkins 1978; Leinonen 1988; Tarrant et al. 1993; Fisher 1993)
- Information Used to Model This Tendency is Obtained from Responses to Separate Waves of Mailings – Successive Waves are Sent to Nonrespondents to the Previous Wave (Drane et al. 1993)





Alaska SWHS - Nonresponse Bias Correction

- Basic Estimating Equation for Sample Survey w/o Correction:

$$\hat{Y} = N\bar{y}$$

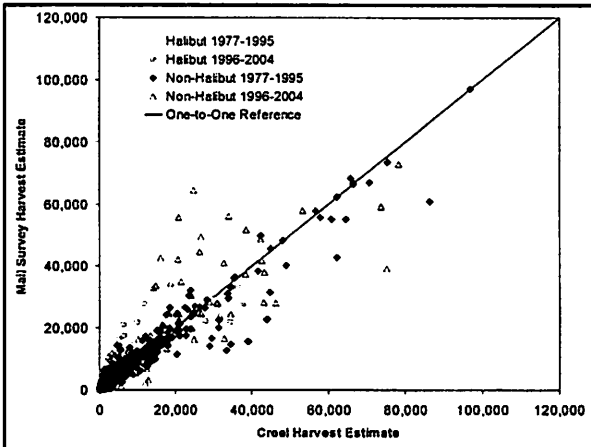
- Estimating Equation With NRB Correction:

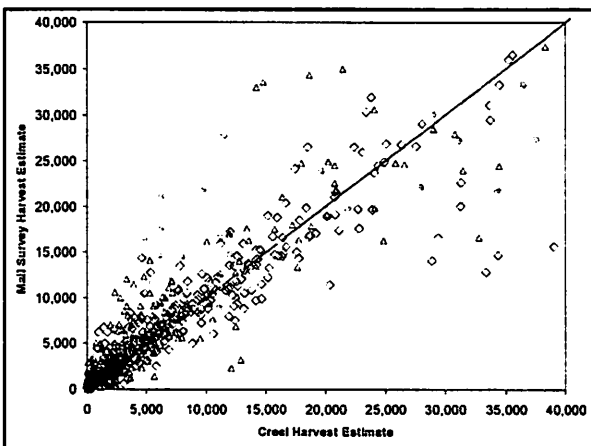
$$\hat{Y}' = \hat{R}N\bar{y}$$

Alaska SWHS - Nonresponse Bias Correction

Relationship Between Corrected and Uncorrected
 Estimates:

$$\hat{Y}' = \hat{R} N \bar{y} \leq \hat{Y} = N \bar{y}$$





Annual Mail Survey
Alaska Statewide Harvest Survey (SWHS)

- Statewide – Annual Survey
- Primary Goal to Obtain Estimates of Angler Participation (Effort), Catch and Harvest of Fish Species on a Site-by-Site Basis
- Not Specifically Designed to Estimate Any One Particular Species of Fish
- Precision and Accuracy is Related to the “Size” of Fishery Described
- Goals of Surveys in 1977-1991 Did NOT Include Estimation of Parameters by User Group (i.e. Charter versus Private)

Alaska SWHS – Charter versus Private Estimates of Harvest

- Starting in 1992, an “Alternate” Survey Instrument was Implemented as a Test --- One of the Goals of this Instrument was to Provide Estimates by User Group (“Standard” Survey Instrument Provided such Estimates only for “SWHS Area P-Kenai Peninsula and Surrounding Marine Waters)
- Since 1992 the TEST has been implemented each year --- This instrument is now called our “Supplementary Survey”

Alaska SWHS – Charter versus Private Estimates of Harvest

- 1992 – present, Two Survey Instruments:
 - Standard
 - Supplementary (with breakdown by user group)
- Total Estimates of Participation, Catch, and Harvest are Obtained from Responses to BOTH surveys Combined (i.e. Ignoring User Groups)
- Estimates by User Group are Obtained Using Information from the Supplementary Survey

Alaska SWHS – Charter versus Private
Estimates of Harvest

- Estimates by User Group are Obtained Using Information from the Supplementary Survey:
 - Estimates of the Proportion of Fish Harvested/Caught by User Group Estimated at the SWHS area level
 - Proportion Multiplied by the Total Estimate to Obtain Estimates for Catch and Harvest by Charter versus Private Recreational Anglers

Estimation of Recreational Pacific Halibut
Harvest – IPHC 2C and 3A

Separate Sample Survey Projects Used to Estimate:

- Annual Mail Survey:
ESTIMATE NUMBERS
- “Catch Sampling” and Creel:
ESTIMATE MEAN WEIGHTS

Estimates from these two types of surveys are
combined to obtain:
ESTIMATE OF HARVEST IN POUNDS

Pacific Halibut Caught and Kept (Harvested) by
Recreational Anglers are Sampled for Lengths in the
Following Major Ports of Landing:

- | IPHC Area 3A | IPHC Area 2C |
|-------------------------------------|--|
| • Kodiak | • Juneau |
| • Homer | • Sitka |
| • Anchor Point/Deep Creek | • Craig/Klawock |
| • Seward | • Ketchikan |
| • Valdez | • Petersburg & Wrangell
(partial season only, except
2000; full-season since 2003) |
| • Whittier (1999-present) | • Gustavus (since 2002) |
| • Cordova (1999 only) | • Elvin Cove (since 2003) |
| • Yakutat (1998-2001, 2003-present) | |

Estimates of Average Weight of Pacific Halibut

- Samples of Harvested Pacific Halibut are Collected Separately by User Group (Caught by Private versus Chartered Angler) – No Partial Samples of Boat-Parties Taken
- Designated Pacific Halibut Sampling Days are Scheduled in Most of the IPHC 2C ports (due to multi-objectives for the creel surveys in these ports)
- Cleaned-at-Sea Pacific Halibut are Sampled with Cooperation of Randomly Selected Charter Operators in Ports where CAS is an Issue (e.g., Homer)

Estimates of Average Weight of Pacific Halibut

- Length Measured on all Sampled Pacific Halibut
- Lengths are Converted to Net Weight using Equation from Clark (1992)
- Average Weights Calculated by Port and User Group

Estimates of Harvest in Weight

Estimates of the Harvest of Pacific Halibut by Sampling Port and User Group are Obtained by Matching and Multiplying

- Estimates of Harvest in Numbers by User Group from the SWHS Areas that Match with the Sampled Ports (sometimes involves disaggregating the SWHS areas)
- Mean Weights from the Catch Sampling projects

Estimates of Variances

So Many Equations:

$$v(\bar{w}_c) = v(\bar{w}_{cs}\hat{p}_{cs}) + v(\bar{w}_{cp}) + v(\bar{w}_{cp})\hat{p}_{cs}^2 \\ - 2\text{cov}(\bar{w}_{cs}\hat{p}_{cs}, \bar{w}_{cp}\hat{p}_{cs}) - 2\text{cov}(\bar{w}_{cp}, \bar{w}_{cp}\hat{p}_{cs})$$

A Talk for Another Day???

The End

Literature Cited

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- Clark, W. G. 1992. Validation of the IPHC length-weight relationship for halibut. *International Pacific Halibut Commission Report and Assessment of Research Activities, 1991*: 113-116. IPHC, Seattle.
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STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

ALASKA BOARD OF FISHERIES

FRANK H. MURKIN

B-5
AGENDA B-A
FEBRUARY 2006
Supplemental

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RECEIVED
JAN 20 2006

January 20, 2006

Ms. Stephanie Madsen, Chair
North Pacific Fishery Management Council
605 W. Fourth Ave., Suite 306
Anchorage, AK 99501-2252

N.P.F.M.C.

Dear Ms. Madsen:

At the March 2005 Alaska Board of Fisheries (BOF) meeting, the board received two king crab proposals: proposals 428 and 430. In addition, a proposal addressing charter boats anchoring in Cook Inlet (Proposal 20 from the November 2004 BOF meeting) was tabled to a joint BOF/North Pacific Fisheries Management Council (Council) meeting. Proposal 428 was also tabled to a joint BOF/Council meeting to be scheduled. Although the BOF took no other action on Proposal 428, the public committee, consisting of three BOF members and several public stakeholders, recommended adoption and suggested several amendments as listed in this letter. You and I have discussed bringing these proposals before the Joint Protocol Committee; however, due to BOF and Council scheduling conflicts and a full agenda of the Ad Hoc Protocol Committee on State waters pollock issues, we've been unable to jointly review these proposals. As I understand the Federal Requirements for the State of Alaska Management Measures for king crab, the actions recommended by the BOF committee to expand the Norton Sound Superexclusive Registration Area as described below, will require Council action as a Category 1 Fixed FMP Measure. The actions to establish a new Kotzebue Section (Q-4) and to change the fishing season and establish a GHM in Q-4 will be frameworked in the FMP as Category 2 Measures. The details of the two proposals are listed below:

Proposal 428 - 5AAC 34.905(c) Description of Registration Area Q Districts.

This regulation would read (c)(1) Norton Sound Section: Waters north of the latitude of Cape Romanzof (61°49' N Lat.) and south of the latitude of 66° N Lat. The new Kotzebue Sound Section comprises all remaining waters of the District and to be designated as Q-4. Essentially this moves the Northern boundary of the St. Lawrence Section (see Figure 1) from Cape Prince of Wales to 66° N. Lat. The boundary line between the St. Lawrence Section and Norton Sound Section is removed and the two sections combined as the Norton Sound Section (Q-3) -- a Superexclusive Registration Area.

The rationale for adopting these changes is to provide an opportunity for exploration west and north but to not restrict fishing in the Norton Sound Section. In past years, the St. Lawrence Section has been fished only four times. Commercial catches were

reported in 1983 when 52,557 pounds of blue king crab were delivered from 13 landings. In 1989, 3,603 pounds of red king crab and 984 pounds of blue king crab were delivered from 8 landings. In 1992, 53 pounds of blue king crab were delivered and in 1995, 7,913 pounds of blue king crab were delivered from 3 landings. By expanding the Norton Sound Section to include the waters of the St. Lawrence section and not restricting fishing in the Norton Sound Section, the BOF committee believes the opportunity to develop commercial king crab fisheries throughout the region can be enhanced. Public participants in the BOF stakeholder committee at the BOF meeting expressed some concern about potential conflicts with subsistence harvests since the GHL will remain the same in the expanded Q-3 as it was in the original Q-3 section. However, after further discussion, all parties agreed that, to develop any additional fisheries, should the resources exist, some compromises must be considered to encourage exploration of the area. The proposer of Proposal 428 affirmed that it was not his intent to create conflicts with the subsistence users, that he was one himself, and further noted that, as a resident of the area, he had always been especially mindful of that issue.

The Kotzebue Section (Q-4) will be managed as an experimental developing fishery. The committee also suggested adopting a GHL of 1,325 king crabs as recommended in the feasibility study conducted by Northern Economics Inc. in 2002 and as endorsed by ADF&G A-Y-K staff.

Proposal 430 - 5AAC 34.910(F). Fishing Seasons for Registration Area Q.

The BOF amended the regulation to allow for an earlier opening in Q-4 of 12:00 noon June 15 through August 1. The commercial opening in Q-3 would remain at 12:00 noon August 1 through September 3. This allows for fishing to take place during optimal daylight periods in Q-4.

The BOF vote was 6-0 favoring with one member absent for proposal 430 as amended. Executive Director Jim Marcotte has examined the meeting record and has confirmed the above to be accurate. Unfortunately, the committee minutes are not recorded. However, I've reviewed my notes and discussed them with the proposer of 428 and 430 as well as ADF&G staff and am confident that the representations are correct. I am therefore, through this letter, requesting that the Council take action, as necessary, to assist the State in expediting implementation of the regulatory process for this year. Since we do have an upcoming meeting of the two bodies scheduled for February 3, 2006, it may be appropriate to discuss these issues at that time.

Sincerely,

MEL MORRIS / JM

Mel Morris, Vice Chair
Alaska Board of Fisheries

Enclosure

cc: Art Nelson, Chair, Board of Fisheries
Jim Marcotte, Executive Director, Board of Fisheries
Lance Nelson, Dept. of Law

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FAX NO. 443 5893

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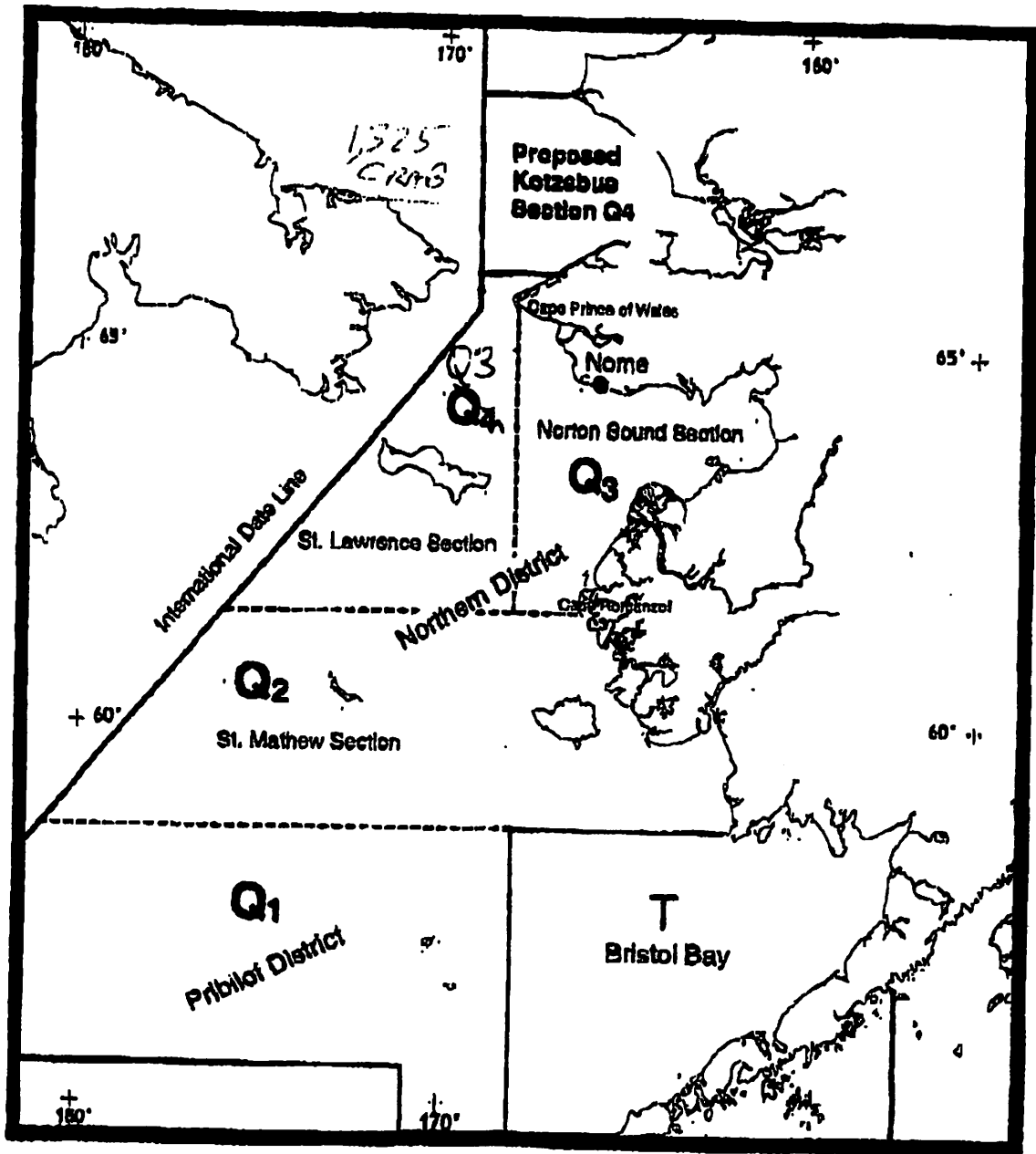


Figure 1.
 Proposal 426. King crab fishing districts and sections of statistical Area Q showing the proposed Kotzebue Section (Q4). The remainder of sections Q3 and Q4 would be combined into a new Norton Sound Section (Q3).