

Retained Catch Sampling in Bering Sea – Aleutian Islands Rationalized Crab Fisheries

Ethan Nichols

Alaska Department of Fish and Game

Dutch Harbor, AK



April 2019 NPFMC Crab Plan Team Meeting, Anchorage, AK

Overview

- Fisheries and port sampling locations
- Sampling coverage
- Step-by-step retained catch sampling
 - Average weights
 - Deadloss monitoring
 - Size frequency sampling
 - Enforcement
 - Confidential interview
- Data entry and editing the fish ticket with retained catch data





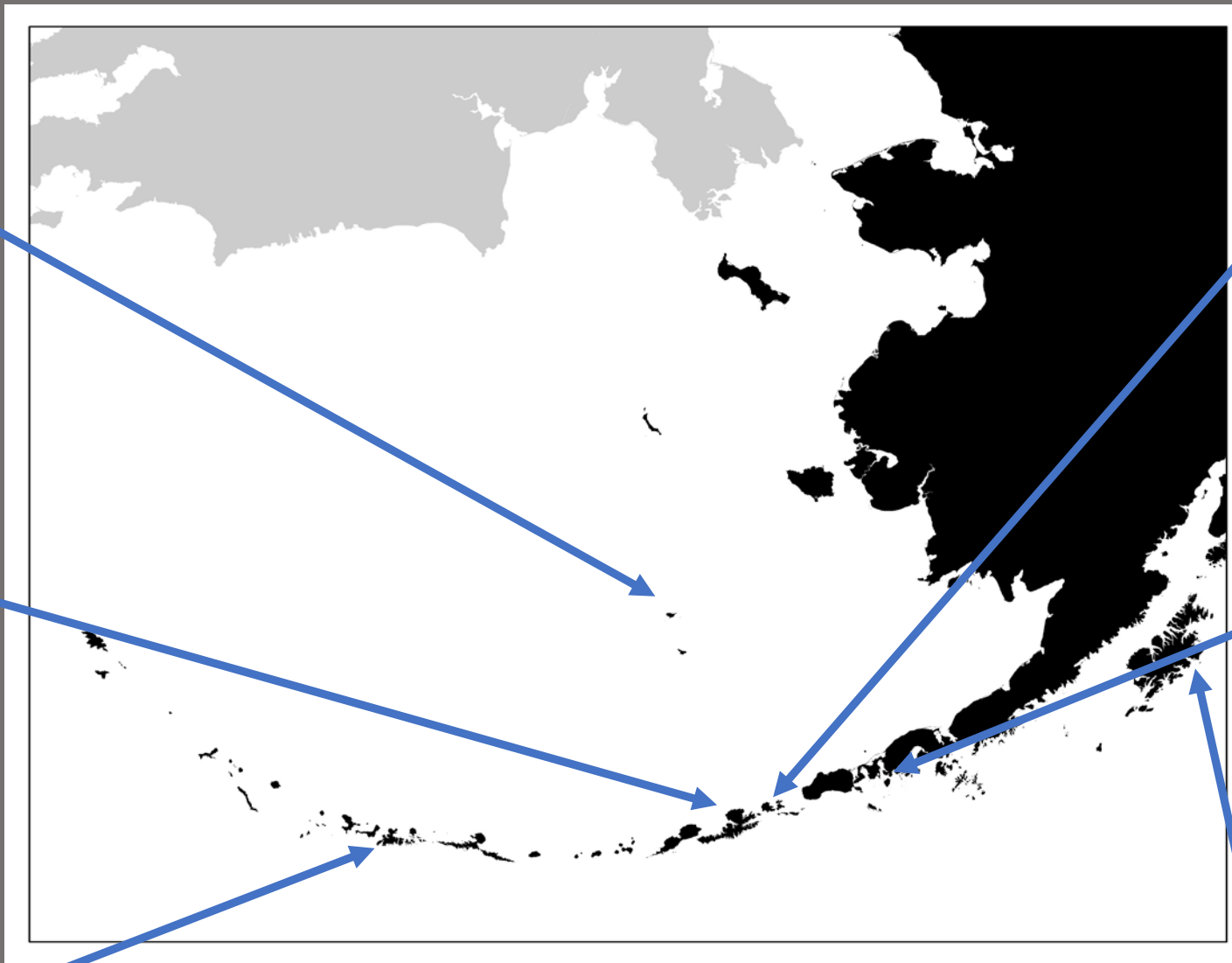
Saint Paul



Unalaska/Dutch Harbor



Adak



Akutan



King Cove



Kodiak

Fisheries and port sampling locations



Aleutian Islands Golden King crab

- Adak, Akutan, Dutch Harbor

August – March



Bering Sea Tanner crab

- Akutan, Dutch Harbor, King Cove, Saint Paul

November – March

October – November

Bristol Bay Red King crab

- Akutan, Dutch Harbor, King Cove, Kodiak



January – May

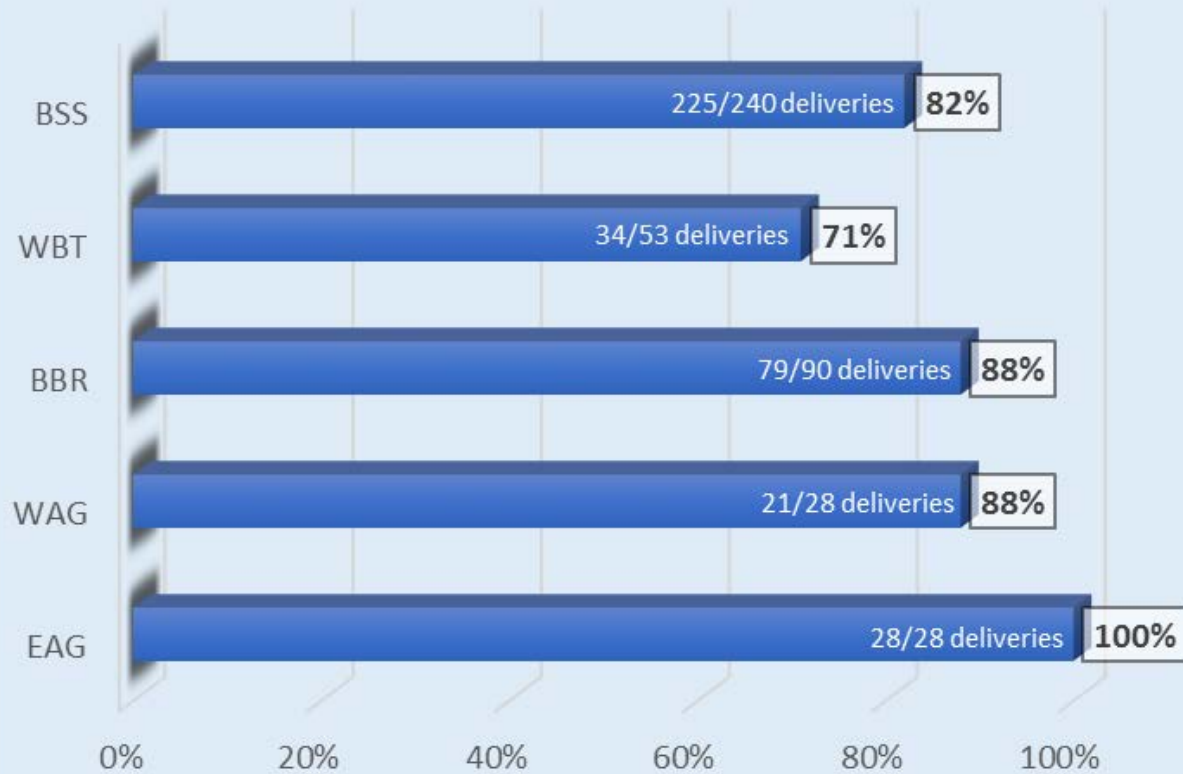
Bering Sea Snow crab

- Akutan, Dutch Harbor, King Cove, Saint Paul

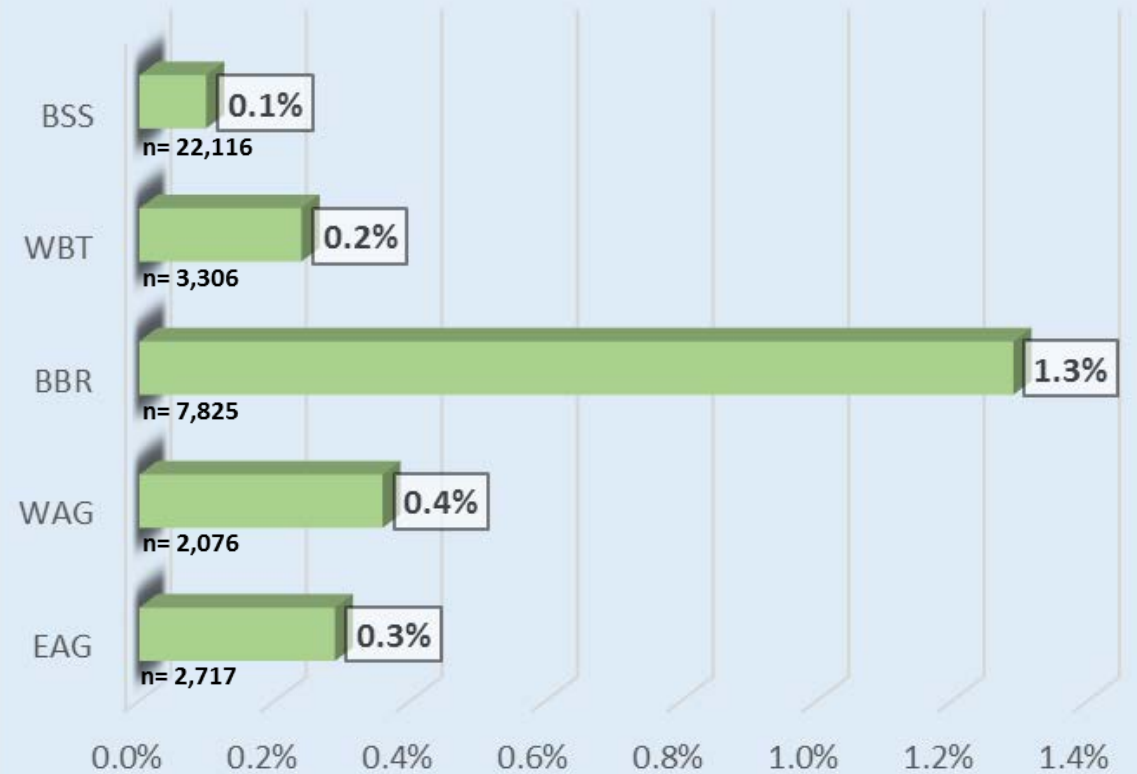


2018/19 retained catch sampling

Proportion of harvest represented by retained catch sampling, by fishery



Proportion of total crab that were sampled, by fishery



Retained Catch Sampling

AVERAGE WEIGHTS

SIZE FREQUENCY

DEADLOSS MONITORING

ENFORCEMENT

CONFIDENTIAL INTERVIEW AND DAILY FISHING
LOG (DFL)

Average Weights

- Crab counts and weights are obtained for 3 brailers of crab during the offload
- Offloaders directed to throw a set number of crab per throw
 - King crab – 2
 - Snow & Tanner crab – 4
- Scale weight is recorded for each brailer as it is lifted out of the tank
- Total number of crab in 3 brailers:
 - RKC ~500 – 700 crab
 - GKC ~800 – 1000 crab
 - Opilio ~2500 – 3500 crab
 - Bairdi ~1400 – 1700 crab
- Typically takes samplers 15 to 45 minutes depending on speed of offload





F/V PATIENCE
Q018 - OPILIO
UNISEA, DUNCH HARBOR
3/16/19

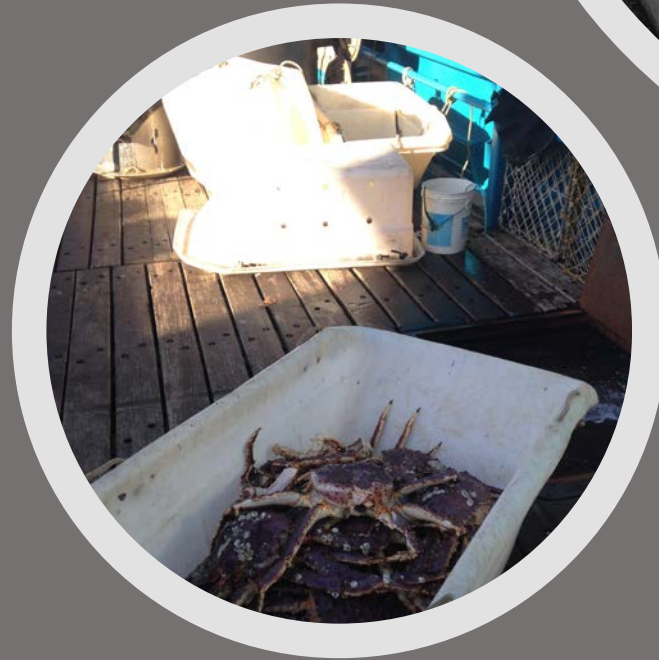
COUNT (x4)	POUNDS
276	1248
261	1136
280	1240
TOTAL CRAB	TOTAL POUNDS
3268	3624
AVG. WT = 1.11 lbs	

DEADLOSS
OPILIO - 50 lbs LIVE
80 lbs DEAD
BAIRD - 20 lbs LIVE
0 lbs DEAD

Rite in the Rain.

Deadloss Monitoring

- Deadloss recorded by:
 - Species (target and incidental)
 - “Live/Legal” (but unmarketable)
- VS**
- “All other” (dead, illegal)
- Weight of deadloss type is visually approximated
 - 1 full tote = ~300lbs
- Total deadloss (target and incidental) is weighed and reported separately on fish ticket by processor
- Example “Live/Legal” deadloss:
sub 4-inch opilio, very old shell bairdi, heavily barnacled RKC, contaminated crab
- Example “All other” deadloss:
dead crab, illegal species, females, dropped legs





Size Frequency Sampling

100 individual crab sample from inside the tank

- Randomly selected (as much as possible)
- Sample is distributed throughout the tank – 25 crab from each quadrant
- Identify species and sex
 - Incidental species are recorded and included in the 100 crab sample
- Measure carapace to nearest millimeter
 - Width for Tanner and snow crabs
 - Length for king crabs
- Determine shell condition
 - Using codes based on established shell condition guides
- Determine legal status
- Typically takes samplers 15 to 45 minutes





- Vernier calipers
- Digital voice recorders
- Legal size assessed using legal stick
 - Legal size includes spines



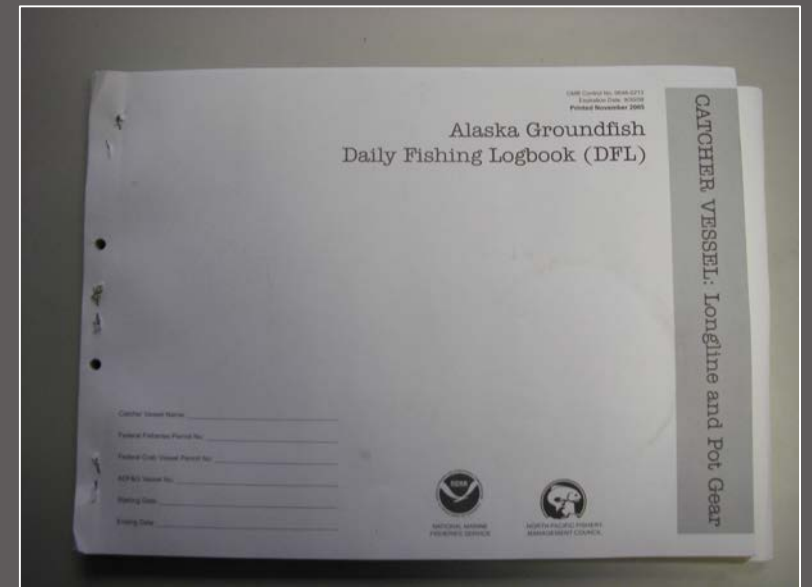
Shell Condition

- (2) New shell
- (3) Old shell
- (4) Very old shell
- (5) Very, very old shell



Confidential Interview

- Collect and verify accuracy of Daily Fishing Log (DFL)
 - Legibility
 - Coordinate and time/date errors
 - Strings of gear vs. daily activity
 - Strings that cross ADF&G statistical areas
- Gather information about the fishing trip from the captain that is not recorded in the DFL:
 - Gear size (7'x7', 8'x8', 6.5'x7', etc.)
 - Lost pots
 - Rail dumped pots
 - Personal use crab
 - Date depart/arrive port
 - Anecdotal reports from captain
- Typically takes samplers 10 – 30 minutes



CATCHER VESSEL DFL LONGLINE AND POT GEAR		VESSEL NAME PATIENCE	FEDERAL CRAB VESSEL PERMIT NO. 1689	IPHC USE ONLY PAGE 21
		OPERATOR NAME AND SIGNATURE ETHAN W. NICHOLS		ADF&G VESSEL NO. 00151
				FEDERAL FISHERIES PERMIT NO. 1689

IDENTIFICATION	INACTIVE	START	END	REASON	FEDERAL REPORTING AREA 513	CREW SIZE 6	GEAR TYPE (check one) <input checked="" type="checkbox"/> Pot for longline pot? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Jig <input type="checkbox"/> Troll <input type="checkbox"/> Handline <input type="checkbox"/> Hook & Line <input type="checkbox"/> Other If hook & line or longline pot, complete applicable boxes below.											
	IFQ		CDQ		OBSERVER INFORMATION		HOOK & LINE OR LONGLINE POT											
	Operator IFQ Permit # 38217		IFQ Permit # 96159		CDQ Group # 053		NO. OF OBSERVERS ONBOARD 0		FIXED HOOK		Length of skate (hook&line) or set (pot) (ft)		Size, hook or pot		Spacing, hook or pot		No. hooks per skate	
	IFQ Permit # 96159		IFQ Permit # 96191		Halibut CDQ Permit #		OBSERVER NAME & CRUISE #		CCNV	TUB	AUTOLINE	SNAP						
IFQ Permit # 96184		IFQ Permit # 12535				OBSERVER NAME & CRUISE #												
MANAGEMENT PROGRAM (Check if applicable and enter number) <input type="checkbox"/> CDQ <input type="checkbox"/> Exempted <input type="checkbox"/> Research <input type="checkbox"/> AIP No. _____																		

Complete these boxes once per delivery

SET #	DATE & TIME SET	DATE & TIME HAUL	Buoy or Bag #	LOCATION OF SET		BEGIN & END DEPTH (Fath.)	GEAR ID	NUMBER OF SKATES OR POTS		TARGET SPECIES CODE	CDQ/IFQ HALIBUT (Pounds)	IFQ SABL (Pounds) RD Round wt. WC Western cut EC Eastern cut	CR CRAB	HAUL WEIGHT (bs. or mt.)	BIRD AVOID GEAR	Mammals (No.) sighted while hauling	Number damaged
				BEGIN POSITION LATITUDE LONGITUDE	END POSITION LATITUDE LONGITUDE			Set	Lost								
27	1/9 16:31	1/11 05:45	A	58 25.88	58 17.68	68	29	0	932	No	No	No	7871				Sablefish
			L	173 55.22	173 55.02	67											Other fish
28	1/9 17:45	1/11 10:35	R	58 17.11	58 17.09	68	20	0	932	No	No	No	7188				Sablefish
			Q	173 51.29	173 59.69	68											Other fish
29	1/9 21:25	1/11 07:45	T	58 17.54	58 17.59	68	19	0	932	No	No	No	7915				Sablefish
			B	173 52.60	173 59.82	69											Other fish
30	1/9 22:10	1/11 13:30	R	58 16.29	58 16.20	69	22	0	932	No	No	No	8915				Sablefish
			F	173 51.84	173 59.92	69											Other fish
31	1/10 03:25	1/11 22:35	L	58 23.51	58 18.04	67	26	0	932	No	No	No	6003				Sablefish
			Z	173 56.73	173 56.79	68											Other fish
32	1/10 04:35	1/12 06:40	K	58 16.62	58 16.61	69	21	0	932	No	No	No	8400				Sablefish
			B	173 48.39	174 01.72	67											Other fish
33	1/10 08:30	1/12 03:00	Y	58 15.29	58 15.25	68	18	0	932	No	No	No	6279				Sablefish
			R	173 58.11	173 49.88	68											Other fish

DISCARD/DISPOSITION	For groundfish and Pacific herring, circle: lbs. or nearest 0.001 mt. For Pacific halibut, Pacific salmon, king crab, and Tanner crab, record in numbers																
	DATE																
	SPECIES CODE																
	PRODLOT CODE																
	BALANCE FORWARD																
	DAILY TOTAL																
CUMULATIVE TOTAL SINCE LAST DELIVERY																	

COMMENTS:

DELIVERY	DATE	ADF&G FISH TICKET NO.	RECIPIENT'S NAME or IFQ REGISTERED BUYER	UNLOADING PORT	IPHC USE ONLY

Data entry – size frequency samples



Crab Size Frequency Data

Select the appropriate Vessel

Vessel	Sampler	Fishery	Form
[Dropdown]	[Dropdown]	Q018	80

Species	Sampler Type	Sample Date	Statarea	Packet
932 - snow crab	1 - Obs c/v	02-03-2019		6087

Confirm Delivery Exit

Size	Legal	Shell	Numcrab
97	1	2	1
98	1	2	1
98	1	2	1
98	1	2	1
98	1	2	1
98	1	2	1
98	1	2	1
99	1	2	1
99	1	2	1
99	1	2	1
100	1	2	1
100	1	2	1

Total crab 97

Opilio

Crab Size Frequency Data

Select the appropriate Vessel

Vessel	Sampler	Fishery	Form
[Dropdown]	[Dropdown]	Q018	81

Species	Sampler Type	Sample Date	Statarea	Packet
47 - hybrid Tanner crab	1 - Obs c/v	02-03-2019		6087

Confirm Delivery Exit

Size	Legal	Shell	Numcrab
105	1	2	1
122	1	2	1
125	1	2	1
125	1	2	1

Total crab 4

Hybrid

Crab Size Frequency Data

Select the appropriate Vessel

Vessel	Sampler	Fishery	Form
[Dropdown]	[Dropdown]	Q018	91

Species	Sampler Type	Sample Date	Statarea	Packet
931 - Tanner crab	1 - Obs c/v	02-03-2019		6087

Confirm Delivery Exit

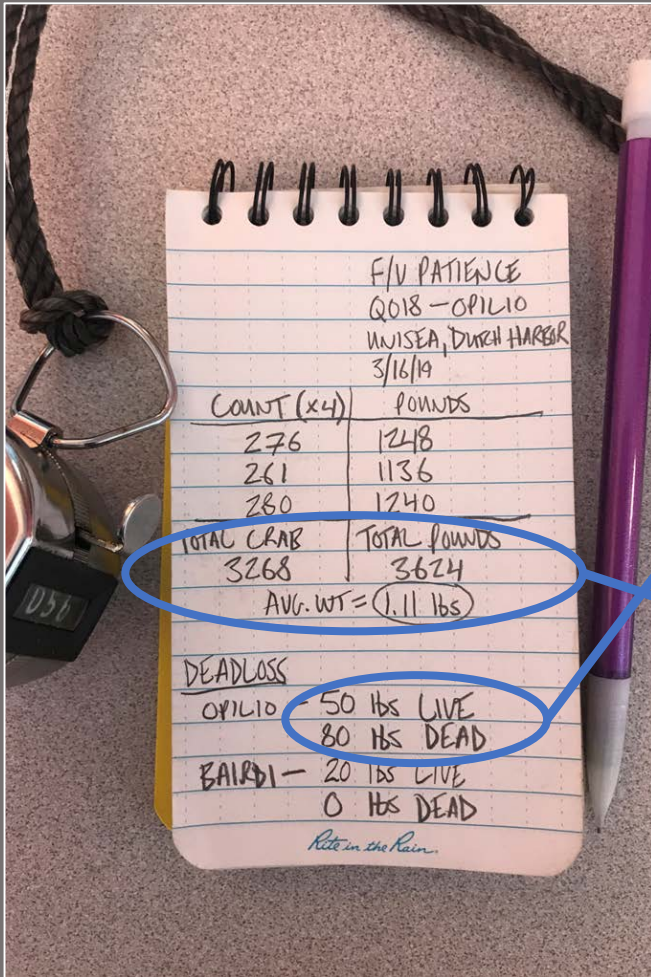
Size	Legal	Shell	Numcrab
112	1	2	1
133	1	2	1

Total crab 2

Bairdi

- Voice recordings (.mp3) are archived in the regional database
- Typically takes samplers 10 – 20 minutes

Data entry – average weights and deadloss



Deadloss:Live	Deadloss:Other	Personal Use	Lost Pots	Rail Dumps	Partial?	DelivSeq	Landing Rpt ID
50	80	0	0	0	N	-	

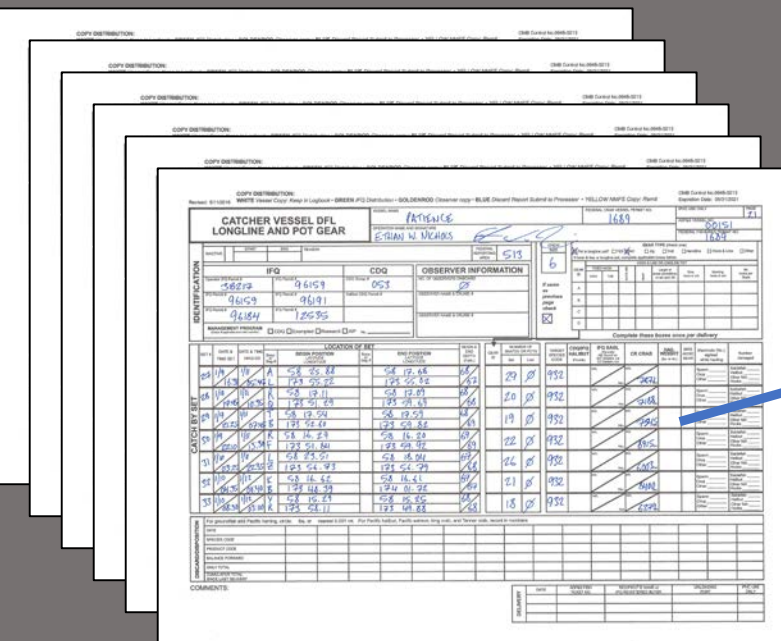
Confirm Interview **Exit**

Weight Tally Daily Information Statarea Summary

Date	No. Crab	Weight	Avg Wt.
03-16-2019	1104	1248.00	1.13
03-16-2019	1044	1136.00	1.09
03-16-2019	1120	1240.00	1.11

3268	3624
Average Weight:	1.11

- Typically takes samplers less than 5 minutes



DFL Data Entry

Fishery: Q018 | BERING SEA SNOW CRAB
Vessel: []
Interviewer: []
Int. Date: []
Packet: []

Confirm DFL Header
Exit

String ID	Date Set	Time Set	Date Hauled	Time Hauled	Begin Lat	Begin Lon	E/W	Statarea	End Lat	End Lon	E/W	Begin Depth	End Depth	Pots	Lost Pots	Num Crab	Gear
196	03-18-2019	21:40	03-29-2019	16:20	593536	1750070	W		593600	1750012	W	70	70	4	0	0	80
197	03-20-2019	07:30	03-29-2019	19:30	593903	1745820	W		593683	1750574	W	68	69	22	0	4541	20
198	03-21-2019	22:20	03-28-2019	23:58	593491	1750405	W		593892	1750322	W	70	68	20	0	3961	20
199	03-19-2019	10:45	03-30-2019	11:30	594065	1750648	W		593933	1745827	W	68	68	22	0	3824	20
200	03-29-2019	16:00	03-30-2019	11:50	593923	1745762	W		593909	1745713	W	68	68	4	0	0	80
201	03-19-2019	16:00	03-30-2019	15:30	594350	1745100	W		594414	1745358	W	65	65	7	0	1598	20
202	03-19-2019	10:00	03-30-2019	19:10	594449	1745323	W		594705	1745322	W	66	65	23	0	6766	20
203	03-19-2019	20:00	03-30-2019	23:50	594400	1745185	W		594690	1745279	W	65	64	21	0	5622	20
204	03-20-2019	00:40	03-31-2019	03:45	594378	1745012	W		594623	1745123	W	65	65	21	0	2152	20
205	03-29-2019	20:20	03-31-2019	14:10	593835	1750090	W		594048	1750784	W	68	68	23	0	2126	20
206	03-30-2019	00:25	03-31-2019	17:42	593393	1750556	W		593815	1750595	W	70	69	20	0	703	20
207	03-30-2019	12:50	03-31-2019	20:00	593421	1750338	W		593921	1750404	W	70	69	22	0	300	20
208	03-30-2019	15:40	04-01-2019	00:30	594408	1745260	W		594483	1745495	W	65	65	7	0	1068	20
209	03-30-2019	19:15	04-01-2019	14:30	594468	1745261	W		594504	1745347	W	65	66	23	0	3865	20

Total pots (excluding lost pots): 317 Total crab: 51537 Soaktime (current string): []

Deadloss:Live
 Deadloss:Other
 Personal Use
 Lost Pots
 Rail Dumps
 Partial?
 DelivSeq
 Landing Rpt ID

Confirm Interview
Exit

Weight Tally
Daily Information
Statarea Summary

Statarea	Total Crab	Total Potlifts
745930	36712	188
755930	14825	129

Open Worksheet

51537 317

Data entry – DFL

- Typically takes samplers 10 – 30 minutes

Fish ticket is edited using average weights, deadloss estimates, and catch by statistical area generated from DFLs

**ALASKA DEPARTMENT OF FISH & GAME
ELECTRONIC CRAB FISH TICKET**

DO NOT WRITE IN THIS SPACE

E18 142516

Statistical Area WorkSheet

Stat. Area	%	Pot Lifts	Stat. Area	%	Pot Lifts
725700	25	125	725630	75	375

Vessel PATIENCE
ADF&G NO. 24887
Permit T91Q 21063R 1901P
 NICHOLS ETHAN
 W

Crew Size 3 **Mgmt Pgm** IFQ
Observers onboard 0 ID

Port of Landing or off-shore operation type
 DUT Dutch Harbor/Unalaska
 Type of Gear used
 91 Pot

Mag Stripe Read

Owner: X0119 FUNCTION TEST PROCESSOR 119

Date Fishing Began (Gear in Water) 03/04/2019
Date Landed 03/16/2019

PARTIAL DELIVERY:
 Partial Delivery
 Last Landing for Trip
 Multiple IFQ Permits

Custom Processor:

SPECIES	STAT AREA	DEL. COND	SCALE WEIGHT	NUM	POT LIFTS	DISP	SIZE & GRADE	SOLD WEIGHT	\$	AMOUNT
932 Snow crab		01 Whole	135,027	112,523		60 Sold	A	135,027	3.15	425,335.05
932 Snow crab		01 Whole	130	108		79 Deadloss				

Total: 135,027 \$425,335.05

I HEREBY ATTEST THAT THESE FISH WERE CAUGHT IN COMPLIANCE WITH ADF&G REGULATIONS.

Permit Holder's Signature _____

Fish Received by _____

Date _____

ADF&G USE	
Interview	<input checked="" type="checkbox"/>
Observer	<input type="checkbox"/>
Logbook	<input checked="" type="checkbox"/>

Before

**ALASKA DEPARTMENT OF FISH & GAME
ELECTRONIC CRAB FISH TICKET**

DO NOT WRITE IN THIS SPACE

E18 142516

Statistical Area WorkSheet

Stat. Area	%	Pot Lifts	Stat. Area	%	Pot Lifts
725700	23	139	715630	11	72
725630	66	290			

Vessel PATIENCE
ADF&G NO. 24887
Permit T91Q 21063R 1901P
 NICHOLS ETHAN
 W

Crew Size 3 **Mgmt Pgm** IFQ
Observers onboard 0 ID

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SPECIES	STAT AREA	DEL. COND	SCALE WEIGHT	NUM	POT LIFTS	DISP	SIZE & GRADE	SOLD WEIGHT	\$	AMOUNT
932 Snow crab		01 Whole	135,027	121,646		60 Sold	A	135,027	3.15	425,335.05
932 Snow crab		01 Whole	130	118		79 Deadloss				
931 Bairdi		01 Whole	20	13		79 Deadloss				

Total: 135,027 \$425,335.05

I HEREBY ATTEST THAT THESE FISH WERE CAUGHT IN COMPLIANCE WITH ADF&G REGULATIONS.

Permit Holder's Signature _____

Fish Received by _____

Date _____

ADF&G USE	
Interview	<input checked="" type="checkbox"/>
Observer	<input checked="" type="checkbox"/>
Logbook	<input checked="" type="checkbox"/>

After



Thank you.