C1 SCALLOP PLAN TEAM REPORT

JIM ARMSTRONG JUNE 1, 2020

SCALLOP PLAN TEAM

Jim Armstrong (Co-Chair, Council Staff)

Vacant (Co-Chair)

Ryan Burt (ADF&G Kodiak)

Mike Byerly (ADF&G Homer)

Scott Miller (NMFS Juneau)

Andrew Olson (ADF&G, Douglas)

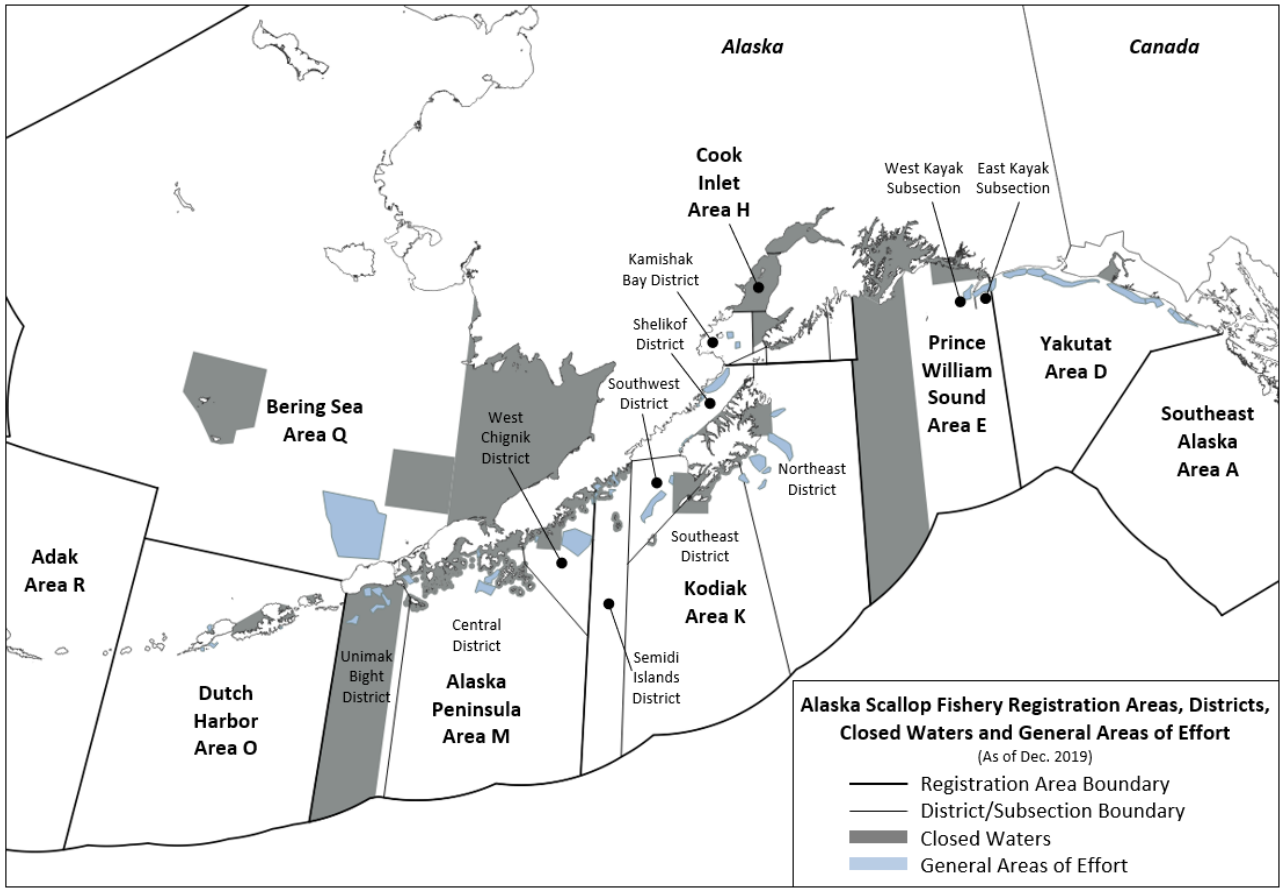
John Olson (NMFS/AKRO-Anchorage)

Jie Zheng (ADF&G Juneau)

ORGANIZATION

- Fishery Overview
- 2019 Assessment
- Regional Performance
- Other Issues

WEATHERVANE SCALLOP FISHING AREAS



WEATHERVANE SCALLOP FISHERY OVERVIEW

Federal Waters

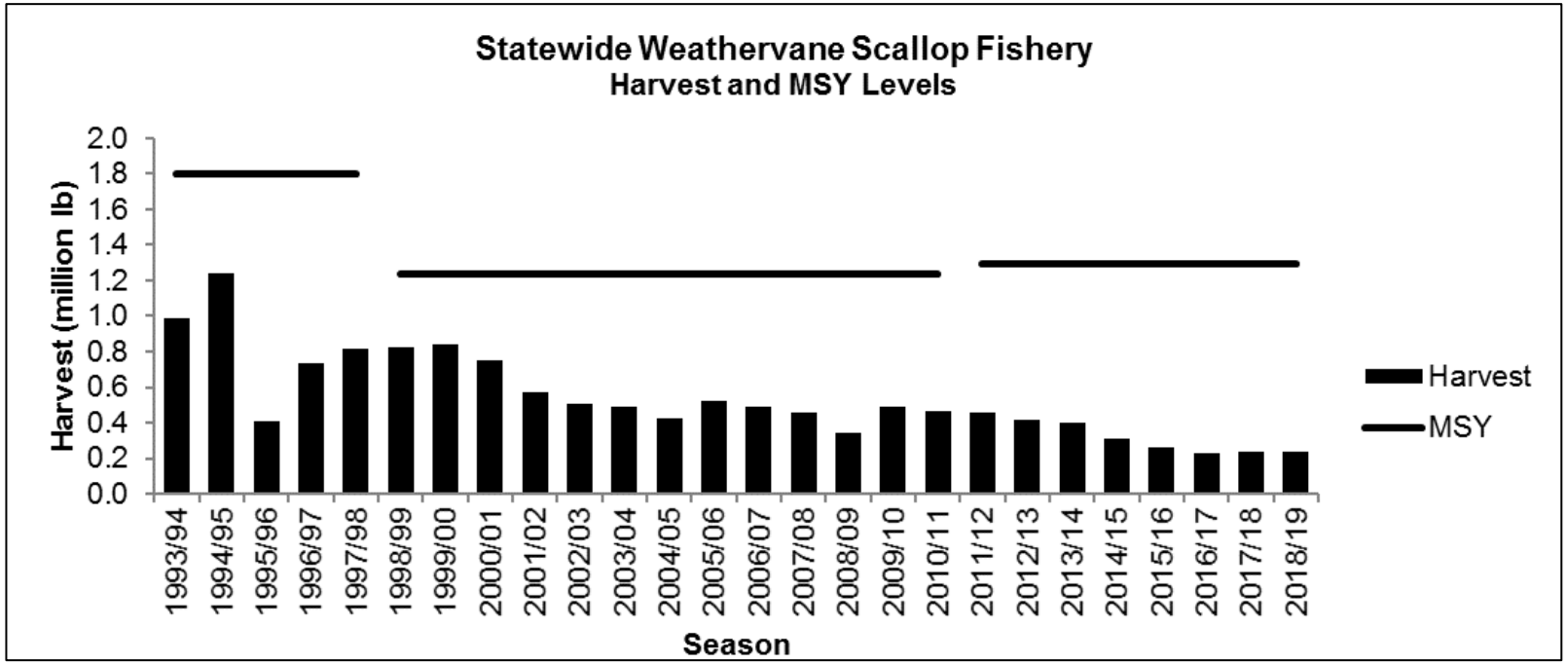
- 9 Federal LLPs
  - 7 LLPs permitted to deploy two 15 ft dredges
  - 2 vessels permitted to deploy two 10 ft dredges
  - Cook Inlet: single 6 ft dredge

State waters

- Open access state water fishery beginning in 2014
- State waters closed to scallop fishing in many places
- Known scallop beds in state waters not closed to scallop fishing: District 16, Yakutat District, Area E (Kayak Island), Kodiak Shelikof District, and Area O (Dutch Harbor)

MSY, OY, AND OVERFISHING DEFINITION

- MSY = 1.29 million lb scallop meats
- MSY definition based on average 1990-1997 harvest with 1995 excluded
- In absence of spawning biomass estimate the OFL defaults to MSY
- maxABC = 90% of OFL
- SPT recommendation for ABC = 1.161 mil lb (90% of OFL) for 2020/21



USE OF FISHERY INDEPENDENT DATA

- Pre 2016
  - 5% of harvest comes from locations with fishery independent assessment
  - 95% of harvest managed from fishery dependent data sources
- Post 2016
  - Statewide survey covers Shelikof Strait and Yakutat area biennially (~70% of mean harvest)

OBSERVER PROGRAM

- 100% mandatory observer coverage (except in Cook Inlet)
  - CPUE
  - Shell height
  - Age
  - Discard rates & condition
  - Catch composition
  - Harvest location
  - Harvest depth
  - Bycatch

2019 ASSESSMENT RESULTS

- Surveyed Cook Inlet, Prince William Sound, and Yakutat Districts

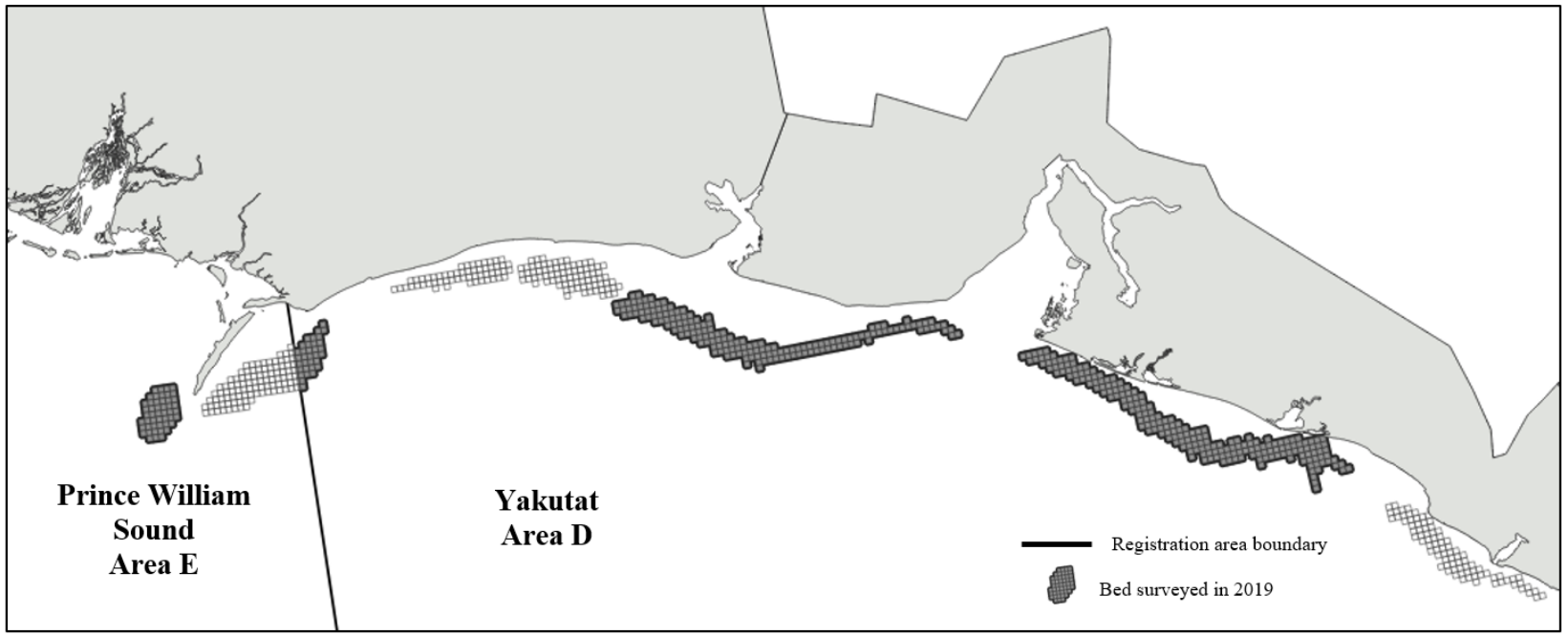


Figure 2 2 Location of scallop beds in ADF&G statewide scallop dredge survey areas. Dark outlines indicate beds surveyed in 2019.

ABUNDANCE ESTIMATES

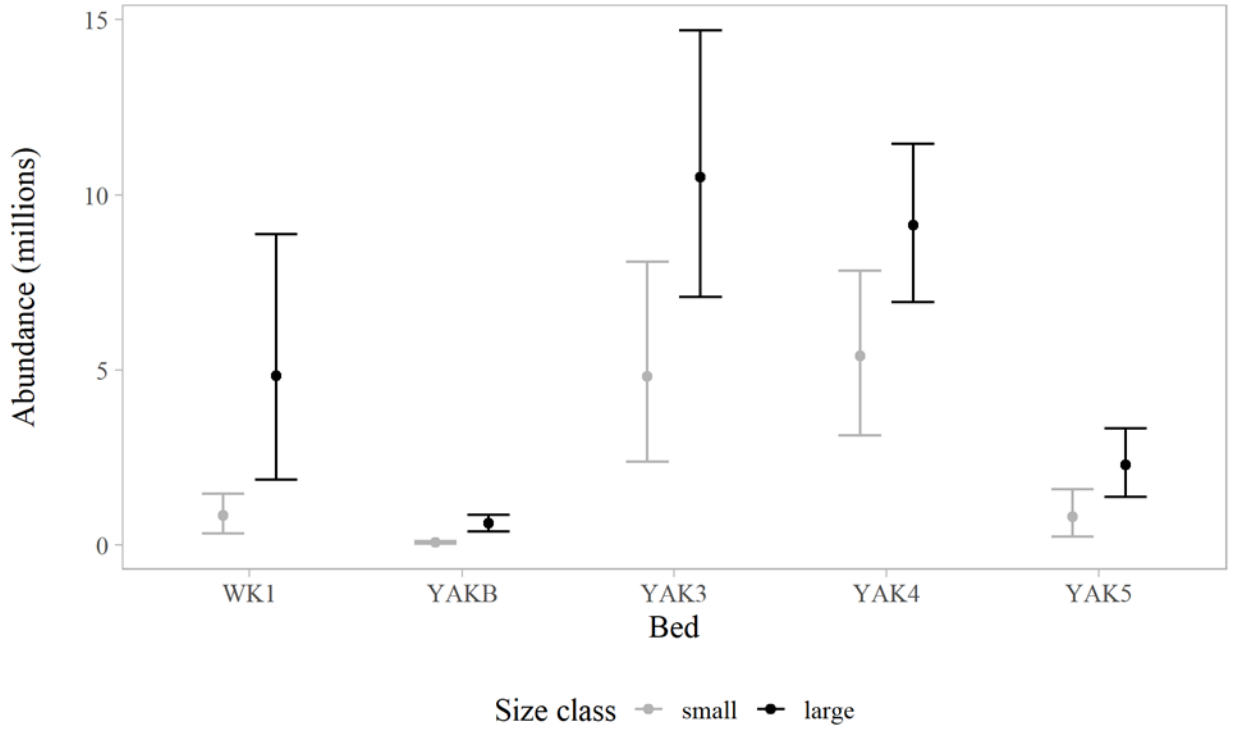


Figure 2 6 Estimates of scallop bed abundance based on 2019 statewide scallop dredge survey data. Error bars represent approximate 95% confidence intervals. Large scallops are those with shell height >= 100 mm.

ABUNDANCE ESTIMATES

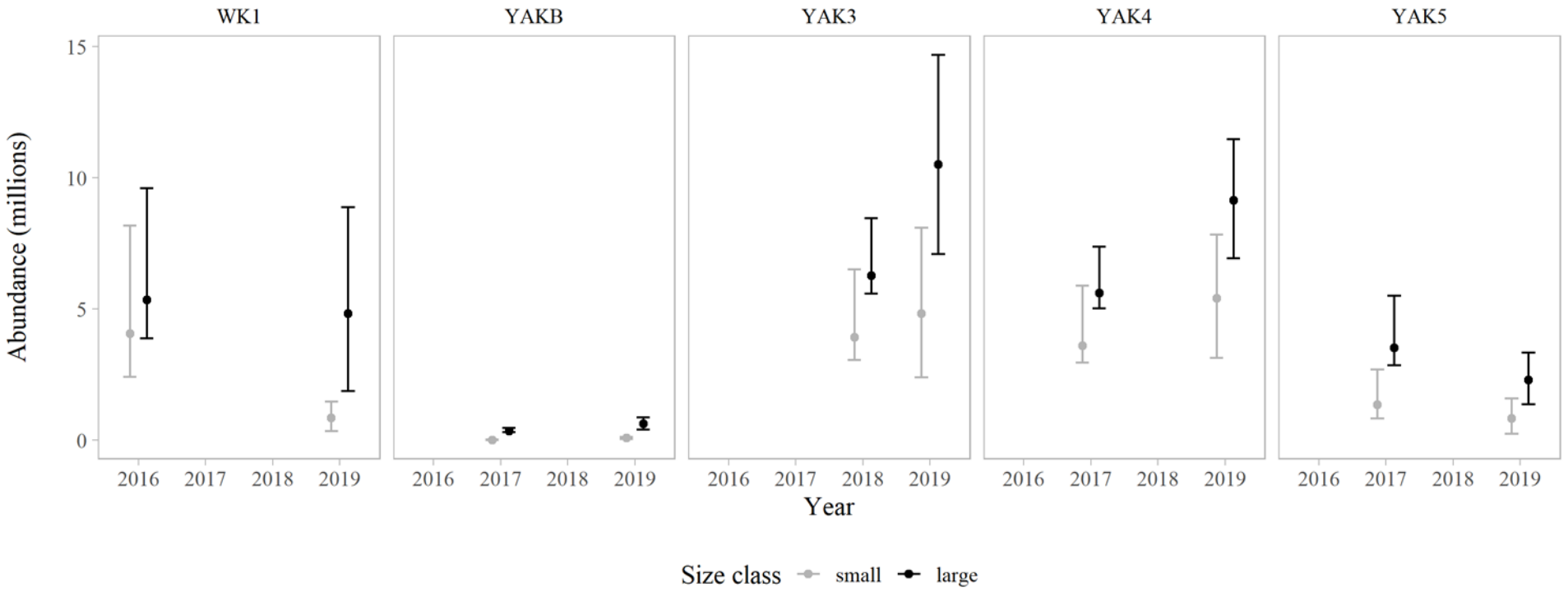


Figure 2-11 Comparisons of 2016 - 2019 survey abundance estimates for beds surveyed in 2019.

BIOMASS ESTIMATES

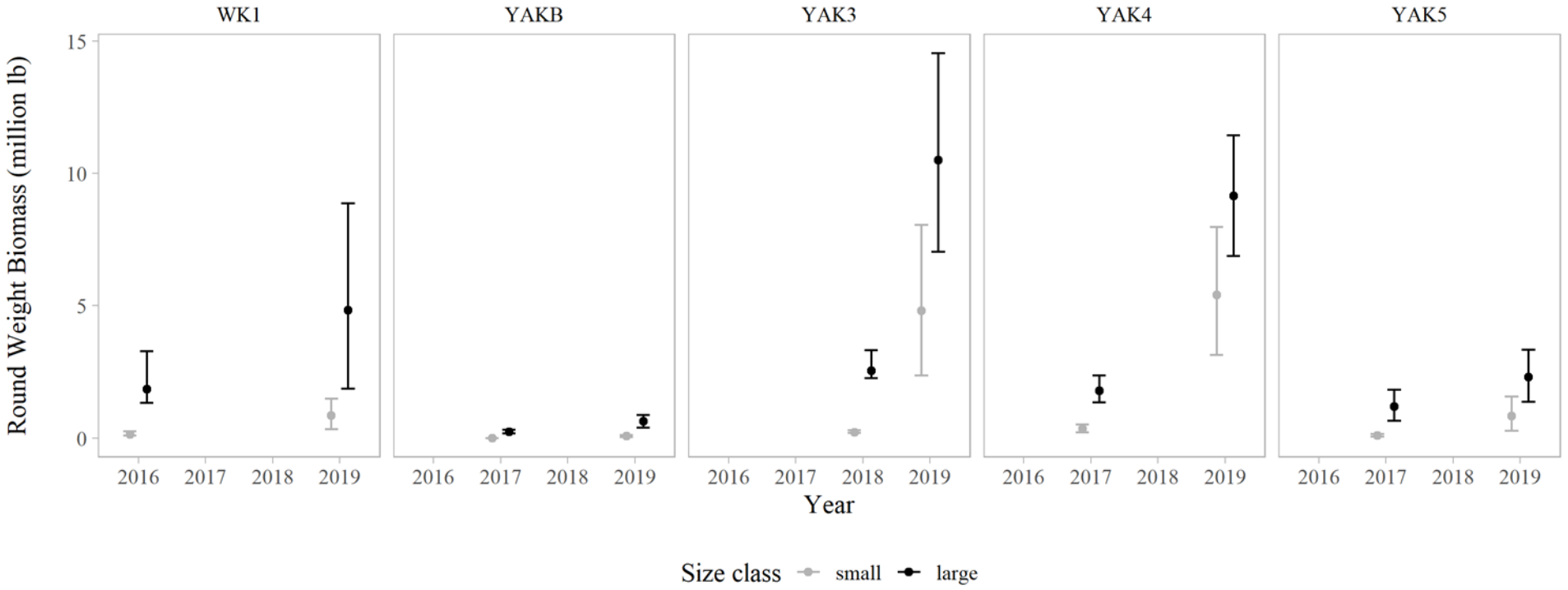


Figure 2-12 Comparisons of 2016 - 2019 survey biomass estimates for beds surveyed in 2019.

REGIONAL FISHERY PERFORMANCE

Registration Area	District/Subsection	GHL (lb meat)	Retained catch (lb meat)	CPUE (lb meat per dredge hr)	Est scallop discard mortality (lb meat)[a]
Yakutat		145,000	145,083	64	3,478
Prince William Sound	West Kayak Island Subsection	6,300	6,420	48	424
Kodiak	Northeast District	15,000	15,210	58	1,111
	Shelikof District	25,000	25,020	53	3,310
	Southwest District	30,000	30,000	66	2
	Southeast District	15,000	470	8	2,077
Alaska Peninsula	Central District	7,500	0		4
	Unimak Bight District[b]	15,000	8,905	34	690
Dutch Harbor		5,000	325	14	2
Bering Sea		7,500	7,540	21	68
	Statewide Totals	271,300	238,973	56	11,166

Table 4-1 GHLs and summary statistics from 2018/19 Alaska weathervane scallop fishery.

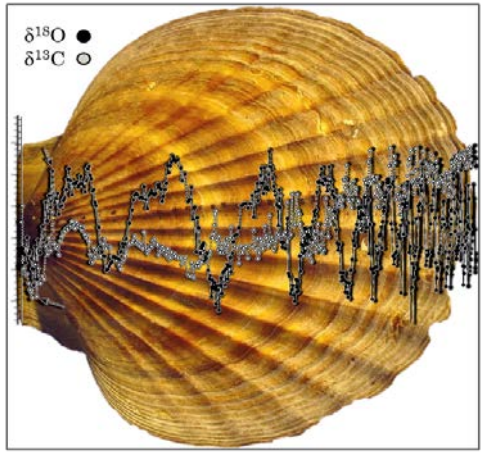
TANNER CRAB BYCATCH

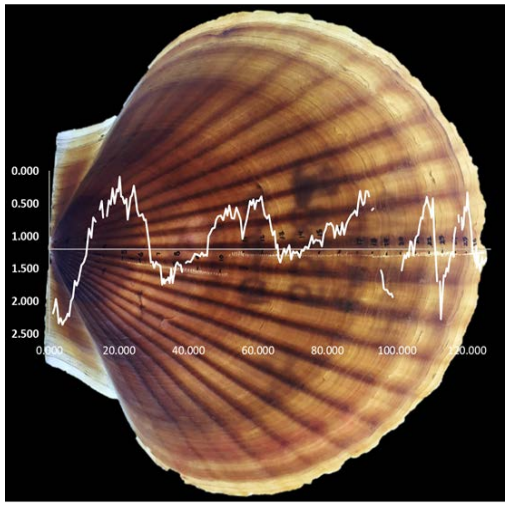
Registration Area	District/Subsection	Tanner crab		
		Bycatch cap	Est number crab	Est weight (lb)[a]
Yakutat		NE	719	20
Prince William Sound	West Kayak Island Subsection	1,600	9	0
Kodiak	Northeast District	9,000	7,242	1,167
	Shelikof District	12,500	3,115	476
	Southwest District	18,000	1,501	311
	Southeast District	7,500	2,163	1,008
Alaska Peninsula	Central District	3,750	305	156
	Unimak Bight District	7,500	3,323	603
Dutch Harbor		5,000	611	135
Bering Sea		65,000	15,007	8,955
		Snow and C. hybrid crab		
Bering Sea		300,000	2,097	2,494
	Statewide Total	429,850	36,092	15,325

Table 3 4 Bycatch of Tanner crab in the 2018/19 Alaska weathervane scallop fishery.

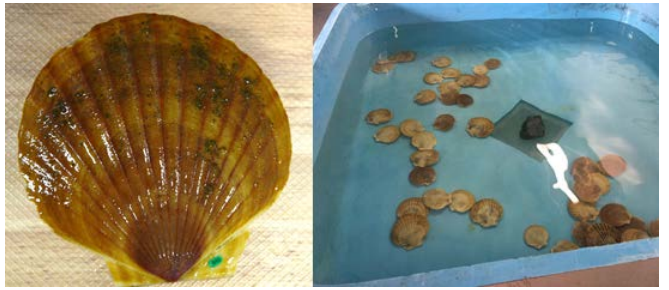
AGE VALIDATION WORK - KEVIN MCNEEL

$\delta^{18}O$ & $\delta^{13}C$





Growth



SCALLOP DISCARD AND CRAB BYCATCH ESTIMATION – TYLER JACKSON

Issues:

- Nearest neighbor selection is unclear, not well documented – results in a black box calculation
- Meat weight recovery rates are likely not accurate
- Broken discards will likely not experience 80% survival

Proposed Method

- Remove nearest neighbor catch rate assignment for days with no observer sampling, use rate based on cumulative for fishery
- Use 10% meat recovery for each district
- Assume 100% mortality for broken scallop discards, 20% for whole scallop discards

Results

- Cumulative bycatch calculation aligns closely with nearest neighbor bycatch calculation and is more straightforward
- Applying specific mortality rates to broken and whole discards results in drastic changes in estimates (doubles or triples estimates), but follows similar trend

SOCIOECONOMIC CONSIDERATIONS, PARTICIPATION AND EARNINGS: SCOTT MILLER

- Vessel participation in this fishery has declined since the late 1990s due to the Federal LLP and formation of a voluntary marketing association.
- In the early 2000s as many as 8 vessels have participated; however, since 2014 no more than 4 vessels have participated. In each of the past four years two vessels have participated, as the harvest levels have fallen to historically low levels.
- The peak value in the fishery, occurred in 1994/95 season when inflation adjusted $10.5 million was earned.
- Overall, the total value has trended downward as landings have fallen from more than 1.2 million pounds down to a preliminary low in 2019/20 of 229,955 pounds.
- The total real first wholesale revenue of less than $2.6 million in the most recent season is lowest revenue total historically.

SOCIOECONOMIC CONSIDERATIONS LLP OWNERSHIP: SCOTT MILLER

- The License Limitation Program was adopted in 1999 (Amendment 4) and limits the fishery to 9 LLPs with ownership limits of 2 LLPs.
- Breakeven analysis, using participant provided cost and revenue data, shows that from 2000 onward more vessels continued to participate than could breakeven.
- In 2000 six LLP holders formed a voluntary marketing cooperative and reduced harvesting capacity by entering into revenue sharing agreements in order to continue fishing profitably.
- From 2002 to the present day the members of the cooperative wishing to remain in the fishery formed several Alaska corporations with shared ownership and purchased the interest of those who no longer wished to remain in the fishery.
- Analysis of Corporate ownership (Alaska subsidiaries of Washington and Delaware Parents see tables 8-3 through 8-5 on pages 91-93) of the six cooperative member owned LLPs shows that no single entity owns more than 1.1 LLP.

SOCIOECONOMIC CONSIDERATIONS, FLEET CONSOLIDATION: SCOTT MILLER

- The three non-cooperative holders of LLPs, with unconfirmed report of the pending sale of the Kilkenny, no longer own the fishing vessels historically used with these LLPs.
- The cooperative has consolidated to three vessels: the Provider, Ocean Hunter, and formerly Arctic Hunter, which has been replaced by the Polar Sea. All three cooperative vessels are homeported in Kodiak and receive vessel servicing (haulout/repair) in Alaska ports.
- Two vessels actively fished the most recent season: with a price of $11.00 to $11.50 and just over 200,000 pounds of harvest roughly 1.2 vessels would breakeven under present fishery and market conditions assuming cost ratios are similar to the past.
- Crew positions have declined from potentially 108 (9 x 12) at the beginning of the LLP program to potentially 24 with present participation.
- With greater efficiencies of fleet consolidation crew wages may have improved; however, data is not available to determine whether the historic 57-59 percent payment to labor has actually increased within the revenue sharing structure of the cooperative.

SOCIOECONOMIC CONSIDERATIONS, PORT LANDINGS: SCOTT MILLER

- Since formation of the cooperative and associated fleet consolidation, scallop landing have occurred in several ports and the location of landings has varied over the years.
- Cordova, Dutch Harbor, Homer, Kodiak, Sitka and Yakutat have all had landings in between 2012 and 2017
- Historically, occasional past landings occurred in Alaska ports of Juneau, Ketchikan, Pelican, Petersburg, Sand Point, Seldovia, Seward and Whittier but are not presently occurring.
- Also of note is that past landings made outside of Alaska to ports in Bellingham, and Seattle have not occurred since 2008 and not by any of the present members of the Alaska Scallop Association.
- Port landings have consolidated to Kodiak, Dutch Harbor, Yakutat, and Homer, where between 8 and 17 landings were made from 2017 to 2019

SOCIOECONOMIC CONSIDERATIONS, MARKET CONDITIONS: SCOTT MILLER

- Domestic markets are dominated by Atlantic sea scallop production and scallop imports: in 2018, 60.1 million pounds of Atlantic Sea Scallops were landed in the United States, and 46.5 million pounds of scallop products were imported compared to just over 200,000 pounds of Alaska Weathervane scallop landings.
- Prices of weathervane scallops track closely to those of Atlantic sea scallops albeit with a slight lag in matching price declines.
- The wholesale price of Alaska Weathervane scallops is likely heavily influenced by domestic supply and import supply. This suggests that North Pacific harvesters have little market power to negotiate prices, except based on quality and taste preferences, and are likely price takers in the wholesale market.
- Considerable price uncertainty presently exists due both to trade policy and the present pandemic affecting the restaurant sector where much of the supply of Alaska Weathervane scallops is normally consumed. The next iteration of the economics chapter of the SAFE will attempt to quantify these economic shocks and their effect on fishery participants.

OTHER ISSUES

- CPUE Standardization - Jackson
- Scallop parasite studies - Burt
- Scallop EFH – John Olson
- Research Priorities - Armstrong
- 2021 meeting - Anchorage

QUESTIONS?

- JAMES.ARMSTRONG@NOAA.GOV
- 907-271-2809