

# STAFF PRESENTATIONS ALASKA BOARD OF FISHERIES

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## SOUTHEAST ALASKA SHRIMP POT FISHERY



January 4-15, 2021  
Ketchikan, Alaska

Report by Quinn Smith

Alaska Department of Fish and Game, Division of Commercial Fisheries, Southeast Region



# Proposals

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- **Change to spring fishery (171, 172, 173, 174)**
- **Limit number of pots per string (175)**
- **Reduce pot limit (176)**
- **Closed waters (177, 178, 179)**
- **Guideline harvest ranges (182)**



# Species

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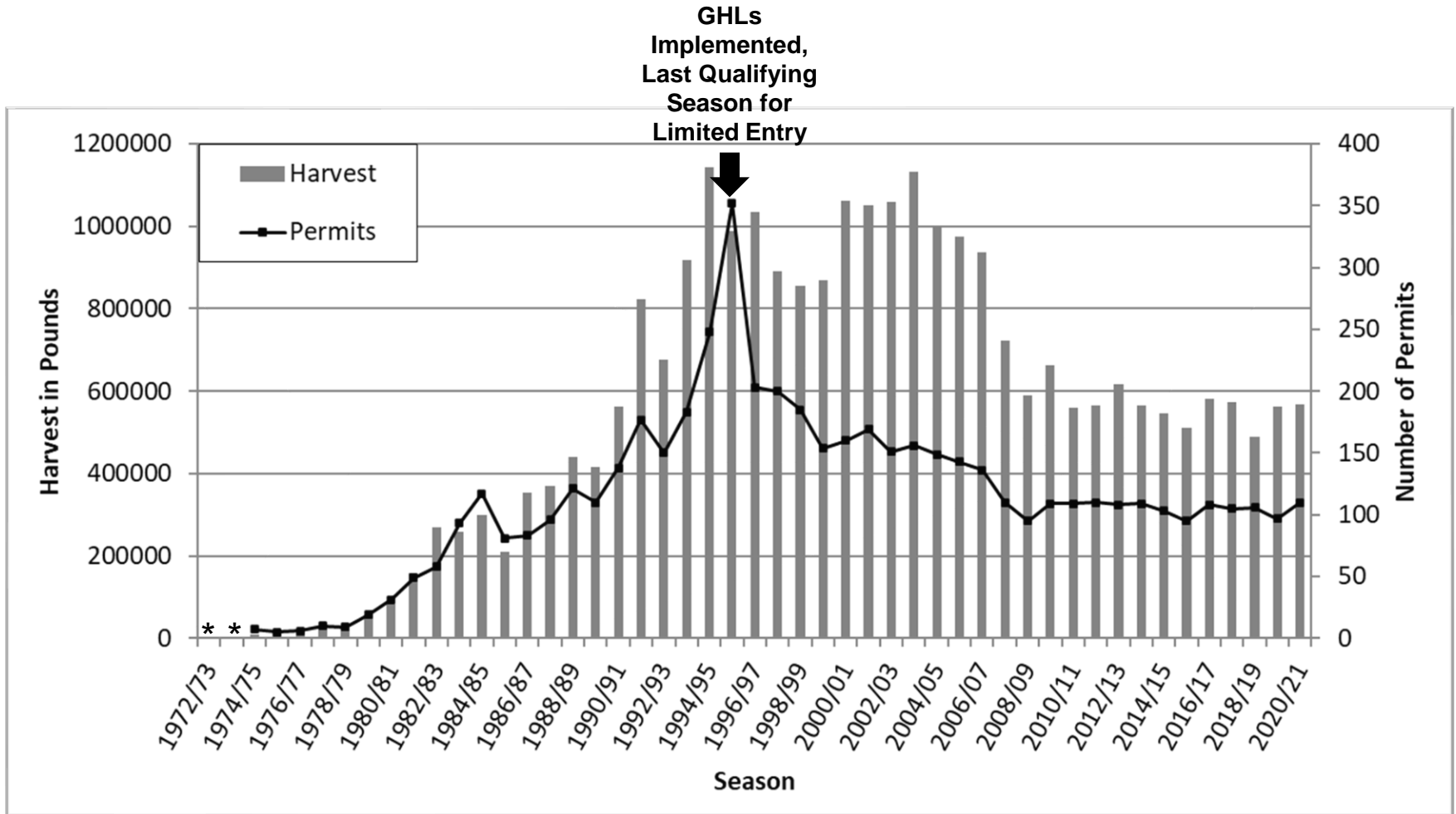
Spot Shrimp-97%



Coonstripe Shrimp-3%



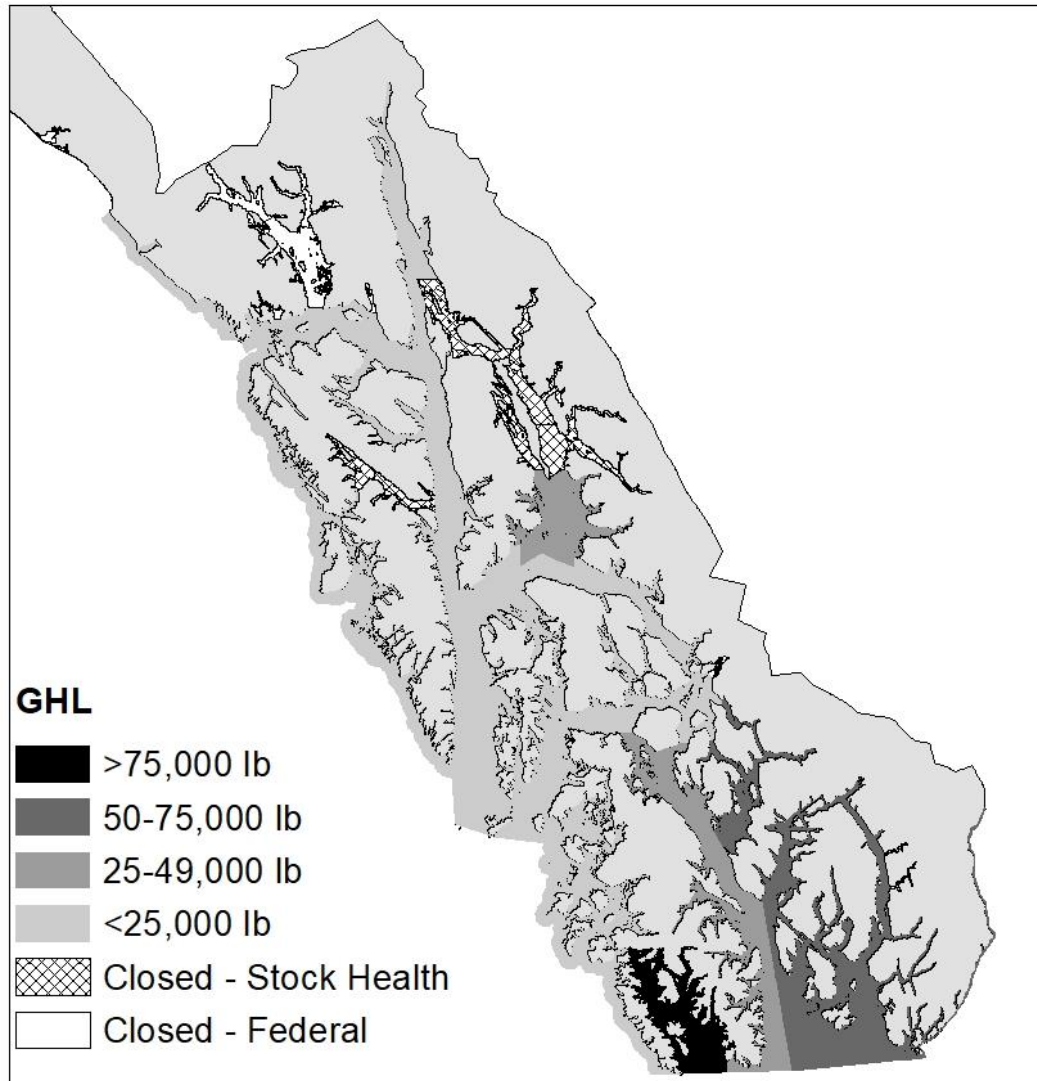
# Harvest and Effort in the Commercial Shrimp Pot Fishery



\* Fewer than 3 permits were fished; information is confidential.



# Distribution of Harvest in the Commercial Shrimp Pot Fishery



# Fishery Regulations

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- **Limited entry implemented in 1998**
- **Season**
  - **Oct 1 - Feb 28 and by EO May 15 - July 31**
    - 75% of annual harvest is caught in first 2 weeks
    - 93% in first month
- **Daily fishing hours of 8:00 am to 4:00 pm**
- **Gear**
  - **100 large pots or 140 small pots**
    - Minimum mesh size, height, number tunnels, etc.
  - **No limit to number of pots longlined per string**
    - 2 buoys required if over 5 pots per string.



# Assessment Program

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- **Index based**
  - No population estimation
- **Data sources**
  - **Fishery independent:**
    - Preseason surveys (~65% of harvest)  
Districts 1, 2, 3, 7, 12, 13
  - **Fishery dependent**
    - On-the-grounds sampling
    - Dockside sampling
    - Mandatory logbook program for C/P vessels
    - Fish tickets



# Management

- **GHLs set based on biological data and fishery performance**
- **GHLs set on a District or Section level**
- **GHLs kept in place for minimum of 3 years to determine effect on stock (except in extreme cases)**

Area	GHL				
	2015/16	2016/17	2017/18	2018/19	2019/20
1	<b>64,000</b>	64,000	64,000	64,000	<b>50,000</b>
2	<b>42,000</b>	<b>30,000</b>	30,000	<b>29,400</b>	<b>30,000</b>
3-A	<b>114,000</b>	114,000	114,000	114,000	114,000
3-B/C	30,000	30,000	30,000	30,000	30,000
4	20,000	20,000	20,000	20,000	20,000
5	<b>12,000</b>	12,000	12,000	12,000	12,000
6	<b>32,000</b>	<b>44,800</b>	<b>51,480</b>	--	-
6-B/C/D <sup>b</sup>	-	-	-	<b>34,300</b>	<b>30,000</b>
7	<b>74,300</b>	<b>81,730</b>	<b>96,590</b>	<b>74,300</b>	74,300
8	10,500	10,500	10,500	-	-
8-B & 6-A <sup>b</sup>	-	-	-	<b>15,000</b>	15,000
8-A & 10-C <sup>b</sup>	-	-	-	<b>12,000</b>	12,000
9	<b>11,000</b>	11,000	11,000	<b>6,500</b>	6,500
10	36,000	<b>29,000</b>	29,000	-	-
10-A/B <sup>b</sup>	-	-	-	<b>35,000</b>	35,000
11-Seymour <sup>a</sup>	12,000	12,000	12,000	12,000	10,000
11-Remainder	7,500	7,500	<b>4,000</b>	4,000	Closed
12-Tenakee	Closed	Closed	Closed	<b>7,500</b>	7,500
12-Remmainder	<b>7,500</b>	<b>Closed</b>	Closed	Closed	<b>7,500</b>
13-A/B	15,000	15,000	15,000	15,000	15,000
13-C	26,000	26,000	<b>21,000</b>	<b>16,000</b>	16,000
14	Closed	<b>7,500</b>	Closed	7,500	Closed
15	15,000	15,000	15,000	11,000	11,000
16	Closed	15,000	Closed	15,000	Closed
<b>TOTAL</b>	<b>528,800</b>	<b>545,030</b>	<b>535,570</b>	<b>534,500</b>	<b>495,800</b>





# Management Challenges

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- **Declining harvests and biological evaluations**
  - Many shrimp populations in the region are in decline.
- **Changing markets and product types**
  - Lead to discrepancies in data available for management of the fishery.
- **Latent permits**
  - Only 40% of active permits made landings in 2019.
- **Subsistence, personal use, & sport harvest**
  - Have only recently started to be monitored
- **Lack of area specific basic biological information**
  - Growth rate
  - Lifespan
  - Spawn success rate



# Spot Shrimp Lifecycle

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**Egg**  
→ **Larvae**  
→ **Juvenile**  
→ **Mature male**  
→ **Transitional**  
→ **Mature female**

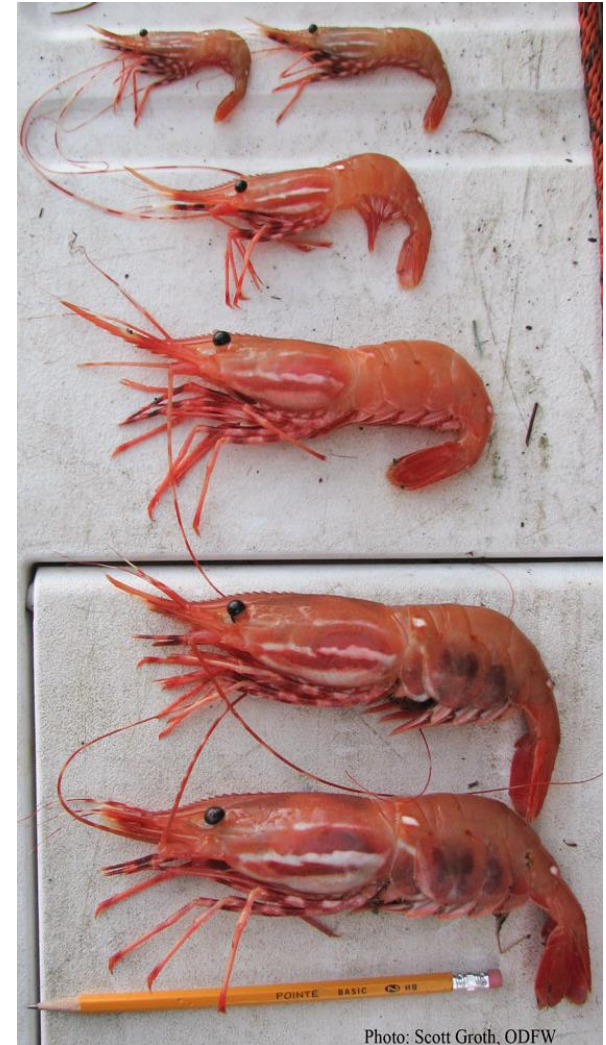


Photo: Scott Groth, ODFW



# Spot Shrimp Lifecycle

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- Both male and female shrimp are available to commercial gear
- Females are most targeted due to size
- Females are spawning stock

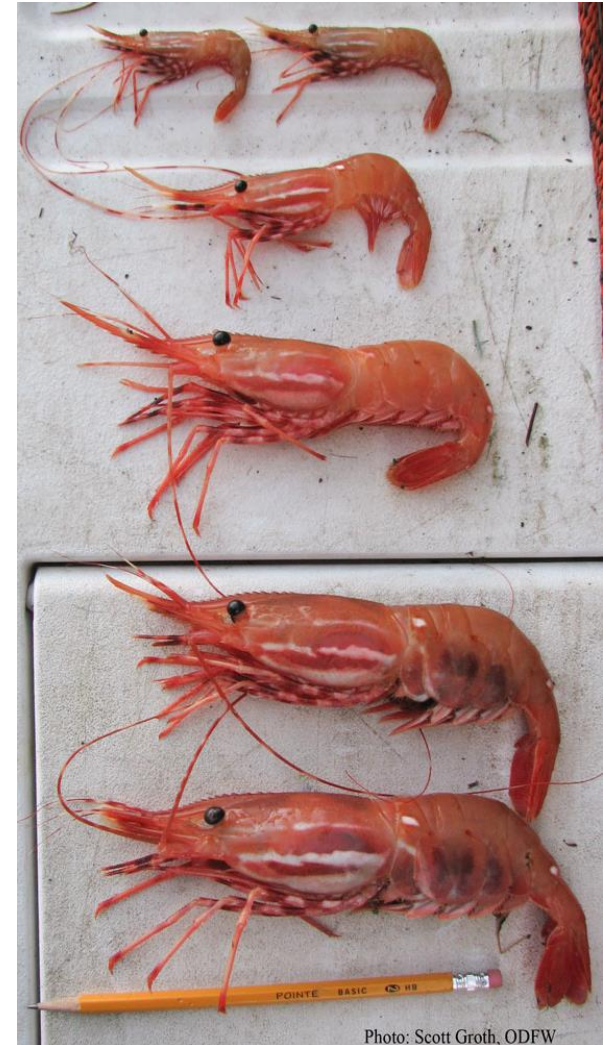


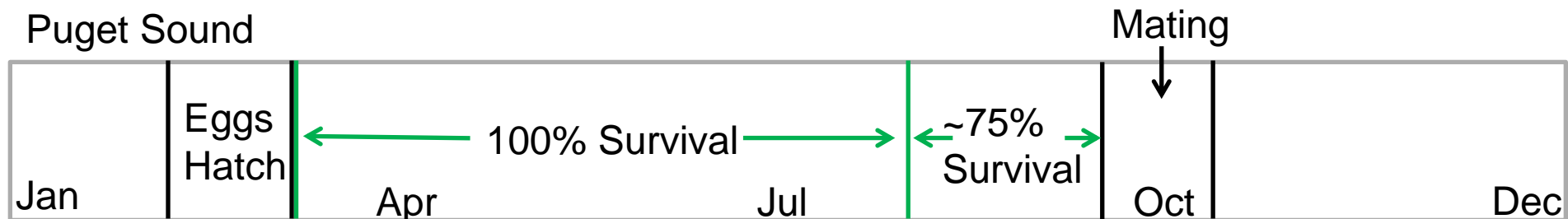
Photo: Scott Groth, ODFW



# Differential Mortality

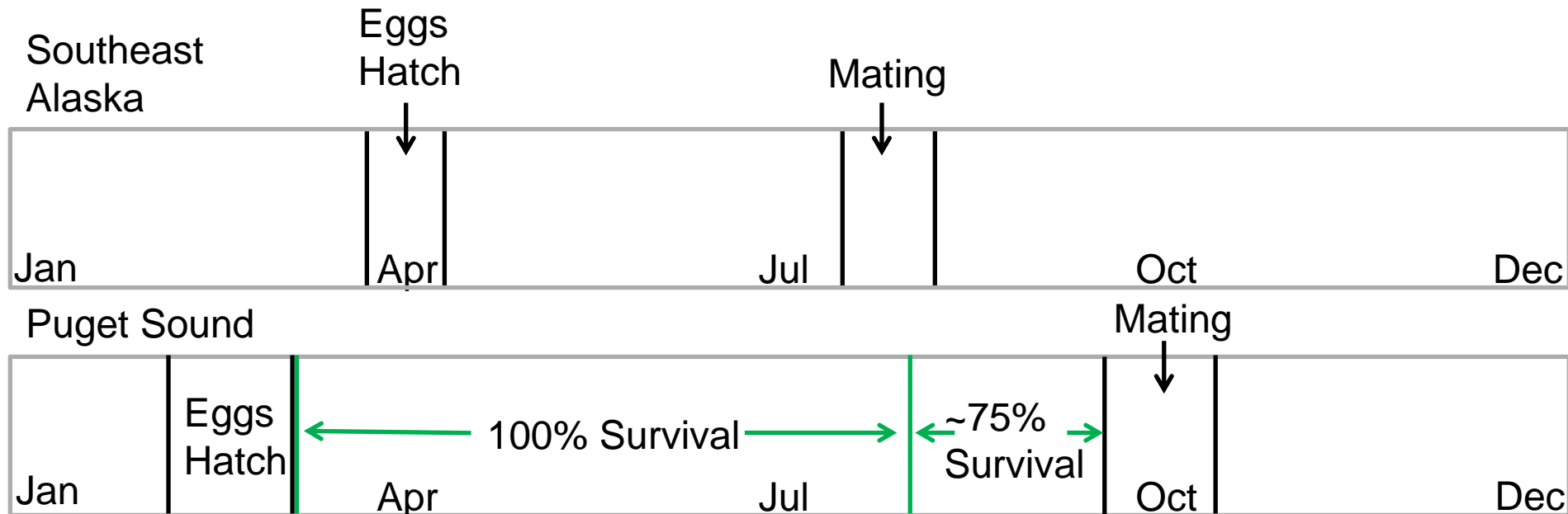
(Rensel & Prentice 1977)

- **Post hatch 100% of females survived for 4 months**
- **20-25% mortality in next 2 months before mating season**
- **75-100% females remated**



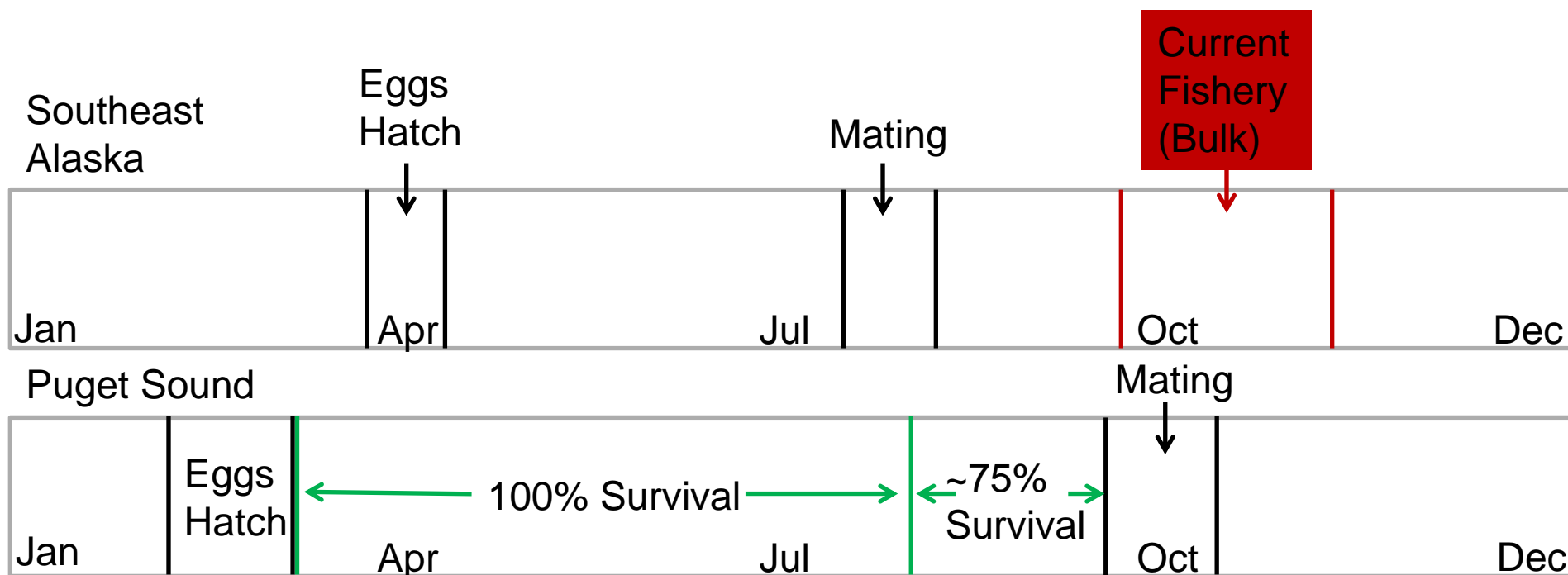
# Southeast Alaska Specific Timing

- **Southeast Alaska populations have a more compact breeding season**



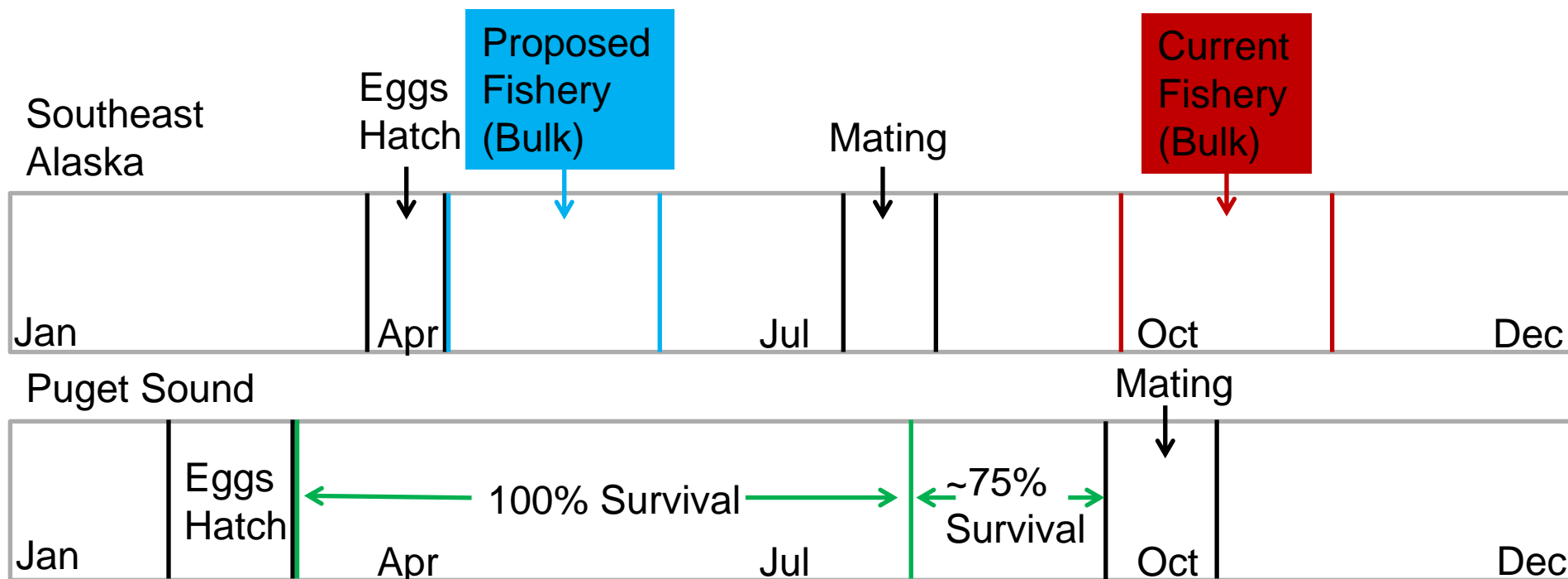
# Female Exposure to Fishery

- **Currently the fishery is prosecuted after the high mortality period, and while females are brooding eggs**



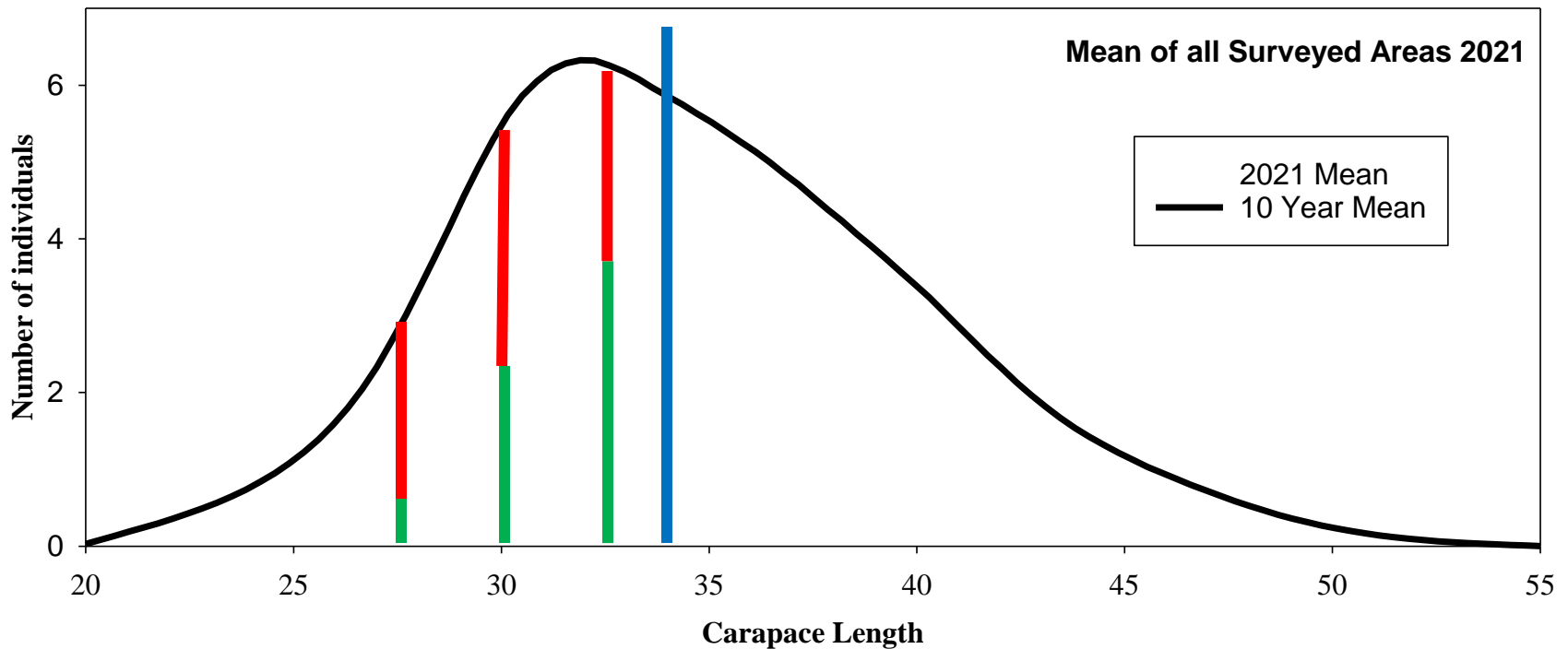
# Female Exposure to Fishery

- Under a spring fishery mature females not vulnerable to fishery until after eggs hatch
- Fishery prosecuted before high mortality period
  - Likely increase in stock reproductive potential
  - Likely increase in sustainable harvest level



# Recent Developments

- **Regionwide poor recruitment over multiple cohorts**





# Questions?

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**171 – Move to spring season (Opening after March)**

**172 – Move to spring season (Opening May 15)**

**173 – Move to spring season (Opening May 21)**

**174 – Move Districts 2 & 6 to spring season (Opening May 15)**

**175 – Limit number of pots on a string to 10**

**176 – Reduce pot limit to 100 small, or 75 large**

**177 – Close waters to commercial fishing near Hydaburg**

**178 – Close waters to commercial fishing in Kasaan Bay**

**179 – Close waters to commercial fishing in Twelve-mile Arm**

**182 – Divide District 15 GHR into two new areas**

