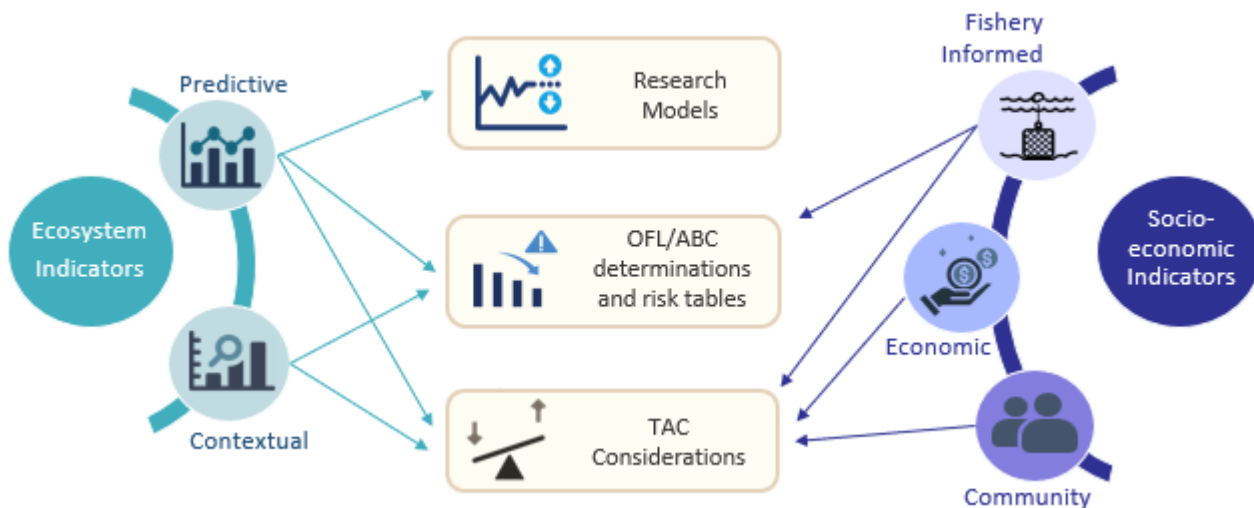




## Bristol Bay Red King Crab

### 2025 Ecosystem and Socioeconomic Profile (ESP) Report Card



### Ecosystem Considerations



Predictive

- Elevated wind stress in Bristol Bay suggests **poor feeding conditions** for larval red king crab in 2025, and is predicted to result in a decline in recruitment to the fishery in ~6 to 8 years due to poor larval survival.
- Bristol Bay red king crab have experienced a steady decline in bottom water pH in the past two decades, and pH declined to 7.94 in 2025. Continued declines in pH are predicted to result in a decline in BBRKC recruitment due to **negative impacts on growth, shell hardening, and survival**.



Contextual

- While Bristol Bay was considerably warmer than the last four years, direct impacts on the stock are uncertain.
- The spatial extent of mature males has expanded with warming bottom temperatures over the past 40 years, and the ratio of red king crab in the Northern District relative to Bristol Bay remains above the 42-year historical average. **Northward stock distribution shifts and range expansion** may limit the utility of spatial closure areas and static management boundaries.
- An increase in the proportion of mature females with empty clutches in 2025 suggests a **potential reduction in reproductive potential** of the stock, although the proportion of empty clutches remains small (< 4%)

### Socioeconomic Considerations




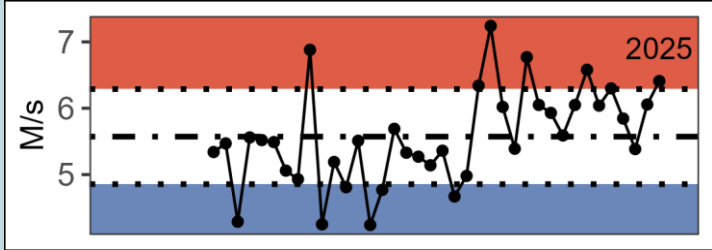

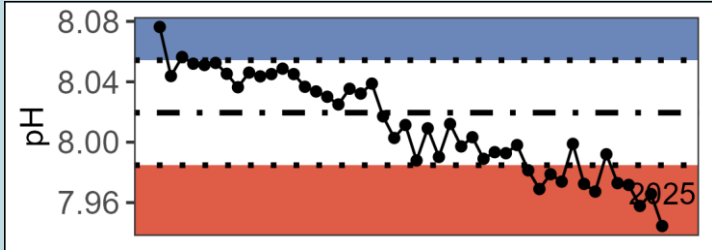

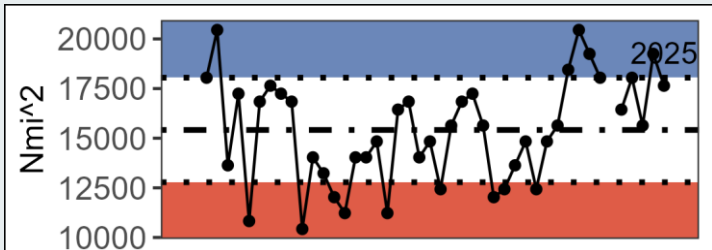

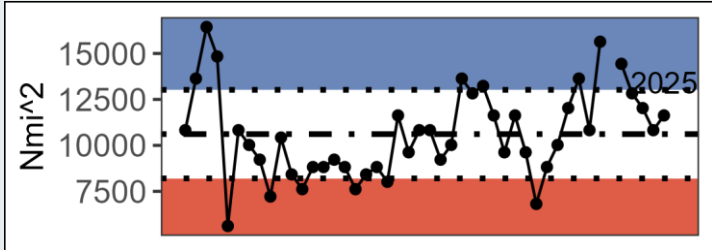

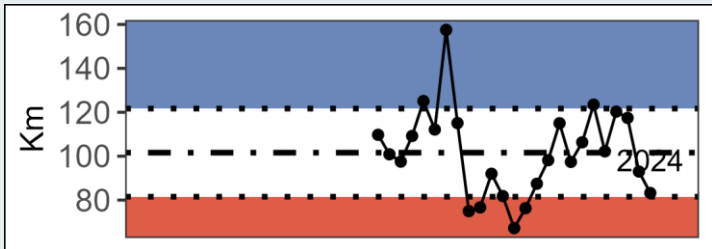
Fishery Informed

- Fishery-informed indicators are generally consistent with **stable or mildly improving stock condition** relative to the recent history of low population density.
- Crab vessel captain observations on fishing conditions in the 2024/25 Bristol Bay red king crab fishery are consistent with **high fishery CPUE**.



# Bristol Bay Red King Crab ESP Report Card

## Ecosystem Indicators

Indicator	Status	Trend
Summer Wind Stress	Above long-term mean 	
Spring pH	Below long-term mean 	
BBRKC Mature Male Area Occupied	Near long-term mean 	
BBRKC Mature Female Area Occupied	Near long-term mean 	
Fishery Catch Distance from Shore	Near long-term mean 	

Most recent year indicator status indicates *good conditions*, *average conditions*, or *poor conditions* for the stock



Predictive


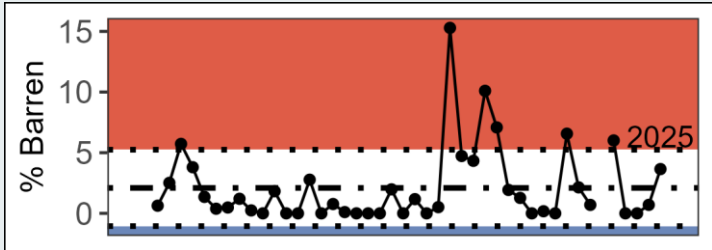

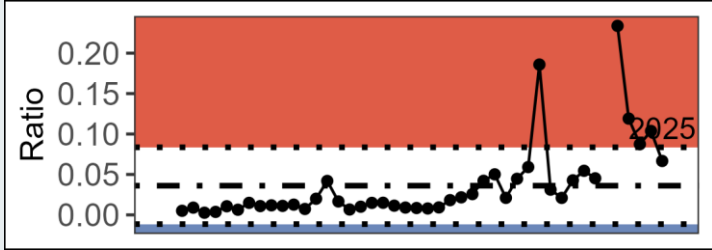

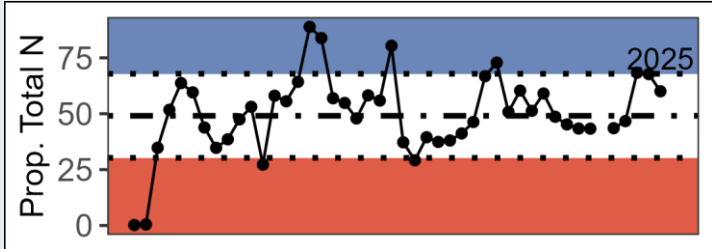


Contextual



# Bristol Bay Red King Crab ESP Report Card

## Ecosystem Indicators



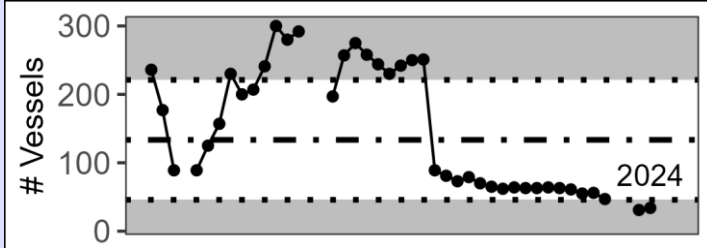

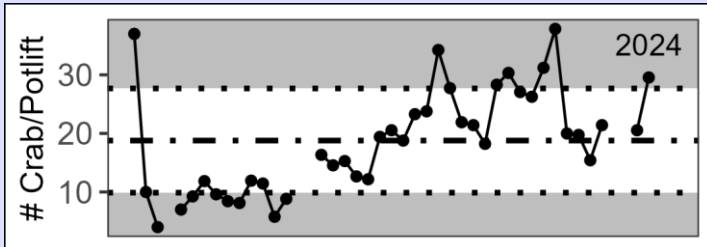

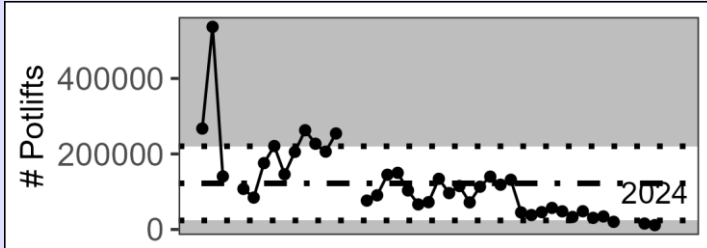

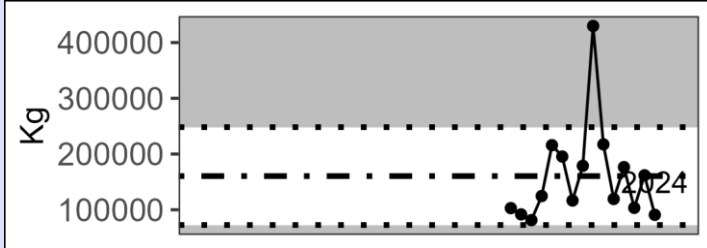
Indicator	Status	Trend
<b>Female BBRKC Reproductive Failure</b>	Near long-term mean 	
<b>Northern District: Bristol Bay RKC Ratio</b>	Near long-term mean 	
<b>Proportion of Mature Males in Closure Areas</b>	Near long-term mean 	

Most recent year indicator status indicates *good conditions*, *average conditions*, or *poor conditions* for the stock



# Bristol Bay Red King Crab ESP Report Card


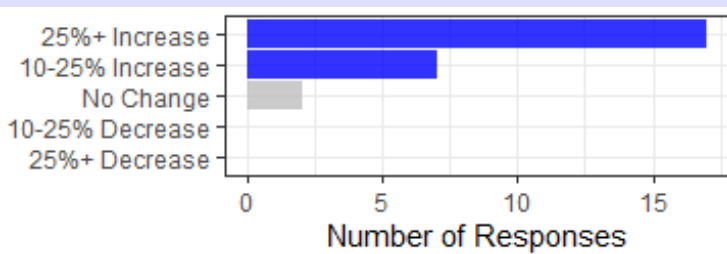

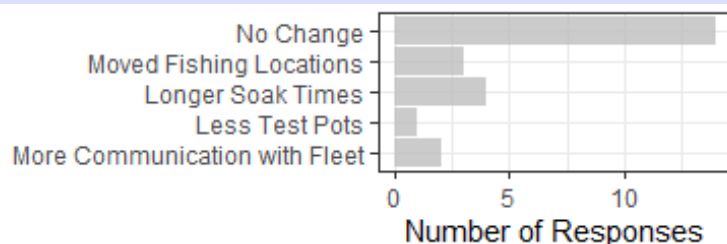

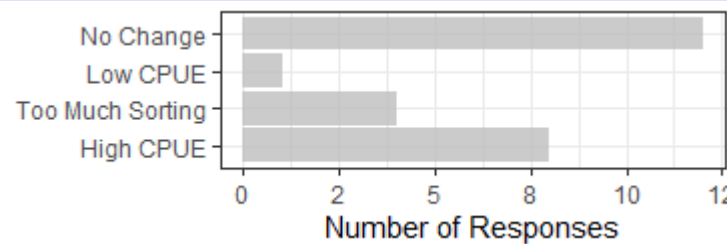
## Socioeconomic Indicators

Indicator	Status	Trend
 Fishery Informed <b>Number of Active Vessels</b>	Below long-term average 	
<b>Fishery CPUE</b>	Above long-term average 	
<b>Fishery Total Potlifts</b>	Below long-term average 	
<b>Annual Incidental Catch</b>	Near long-term average 	



# Bristol Bay Red King Crab ESP Report Card

## Socioeconomic Indicators

Indicator	2025 Status	Trend												
<b>Skipper Survey:</b> Perceived Abundance of Legal Males	Increase in perceived abundance 	 <table><tr><th>Trend</th><th>Number of Responses</th></tr><tr><td>25%+ Increase</td><td>17</td></tr><tr><td>10-25% Increase</td><td>7</td></tr><tr><td>No Change</td><td>2</td></tr><tr><td>10-25% Decrease</td><td>0</td></tr><tr><td>25%+ Decrease</td><td>0</td></tr></table>	Trend	Number of Responses	25%+ Increase	17	10-25% Increase	7	No Change	2	10-25% Decrease	0	25%+ Decrease	0
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<b>Skipper Survey:</b> Changes in Fishing Behavior	Minor changes in behavior 	 <table><tr><th>Trend</th><th>Number of Responses</th></tr><tr><td>No Change</td><td>14</td></tr><tr><td>Moved Fishing Locations</td><td>3</td></tr><tr><td>Longer Soak Times</td><td>4</td></tr><tr><td>Less Test Pots</td><td>1</td></tr><tr><td>More Communication with Fleet</td><td>2</td></tr></table>	Trend	Number of Responses	No Change	14	Moved Fishing Locations	3	Longer Soak Times	4	Less Test Pots	1	More Communication with Fleet	2
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<b>Skipper Survey:</b> Motivation for Changes in Fishing Behavior	Minor changes in behavior 	 <table><tr><th>Trend</th><th>Number of Responses</th></tr><tr><td>No Change</td><td>11</td></tr><tr><td>Low CPUE</td><td>1</td></tr><tr><td>Too Much Sorting</td><td>4</td></tr><tr><td>High CPUE</td><td>8</td></tr></table>	Trend	Number of Responses	No Change	11	Low CPUE	1	Too Much Sorting	4	High CPUE	8		
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Fishery Informed