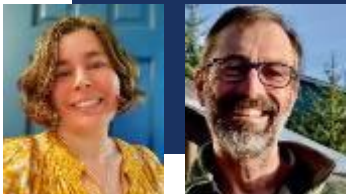


C2 BSAI CRAB STOCKS

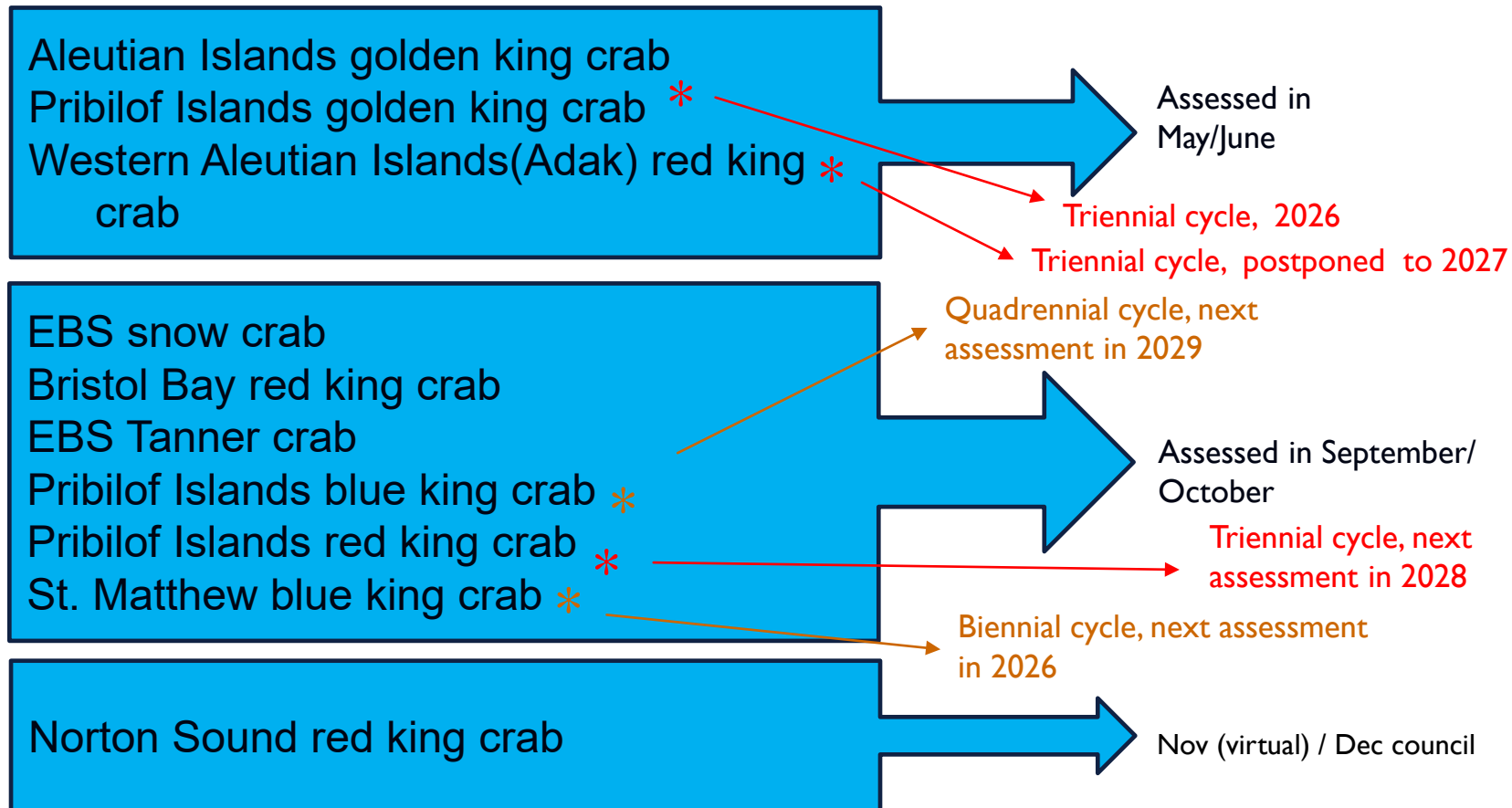
KATIE PALOF & MIKE LITZOW (CPT CO-CHAIRS)

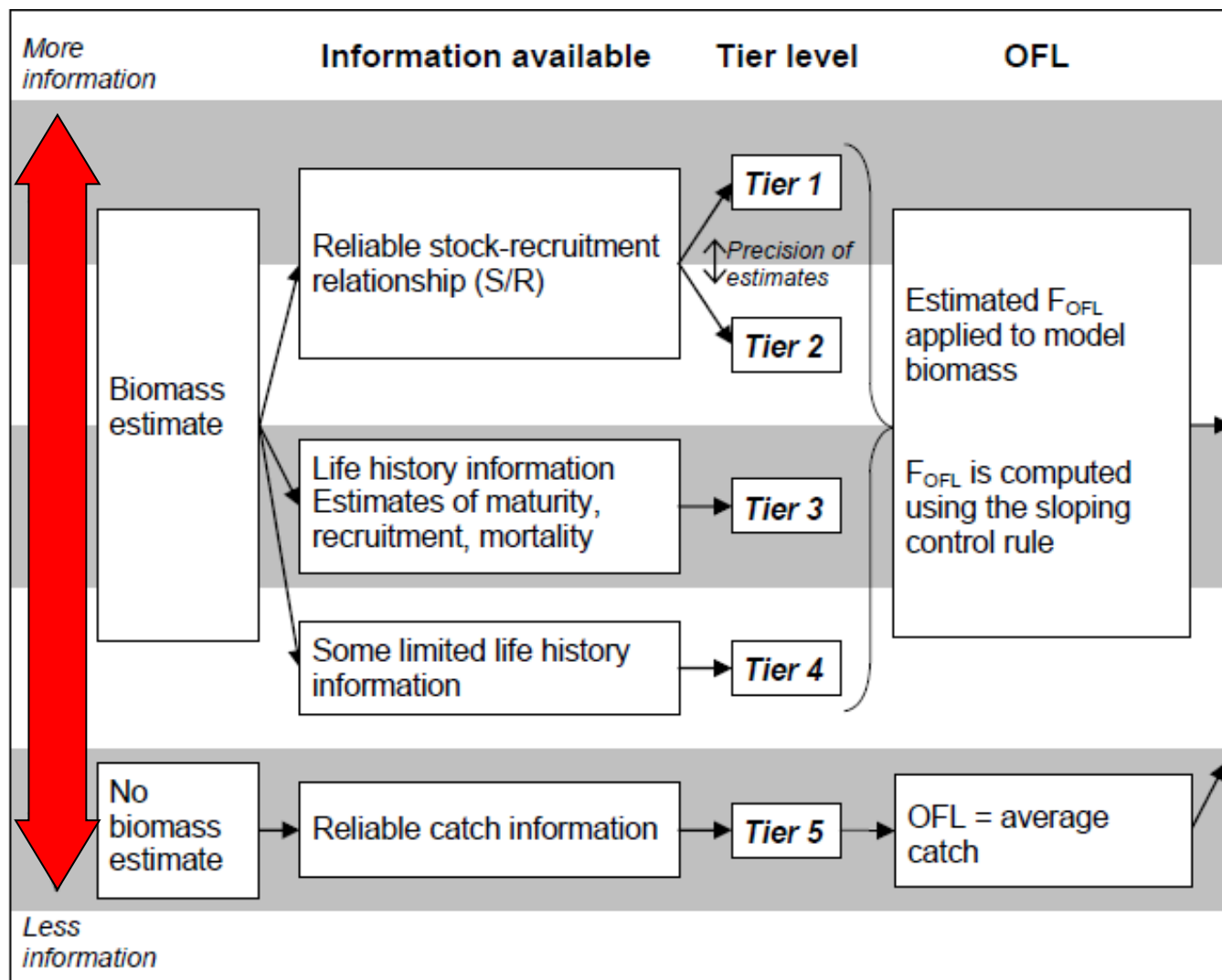
JUNE 2026 NPFMC MEETING

CPT MEETING MINUTES – MAY 11TH – 15TH VIRTUAL



BSAI CRAB STOCKS MANAGEMENT TIMING





ABC buffer:

Determined based on stock information available and uncertainties not incorporated in the assessment model.



MAY 2026 AGENDA

- ✓ **AIGKC final assessment, OFL and ABC**
- ✓ **PIGKC final assessment, OFL and ABC**
- ✓ Hybrid discussion
- ✓ Proposed model runs: Tanner crab, Snow crab, BBRKC, NSRKC, SMBKC
- ✓ Balance of CPT report:
 - ✓ Risk table progress
 - ✓ Jan modeling workshop report, GMACS updates
 - ✓ SAFE guideline updates
 - ✓ General ESP updates
 - ✓ Maturity workflow – Chionoecetes crab
 - ✓ Research updates: skipper survey, BSFRF, and others



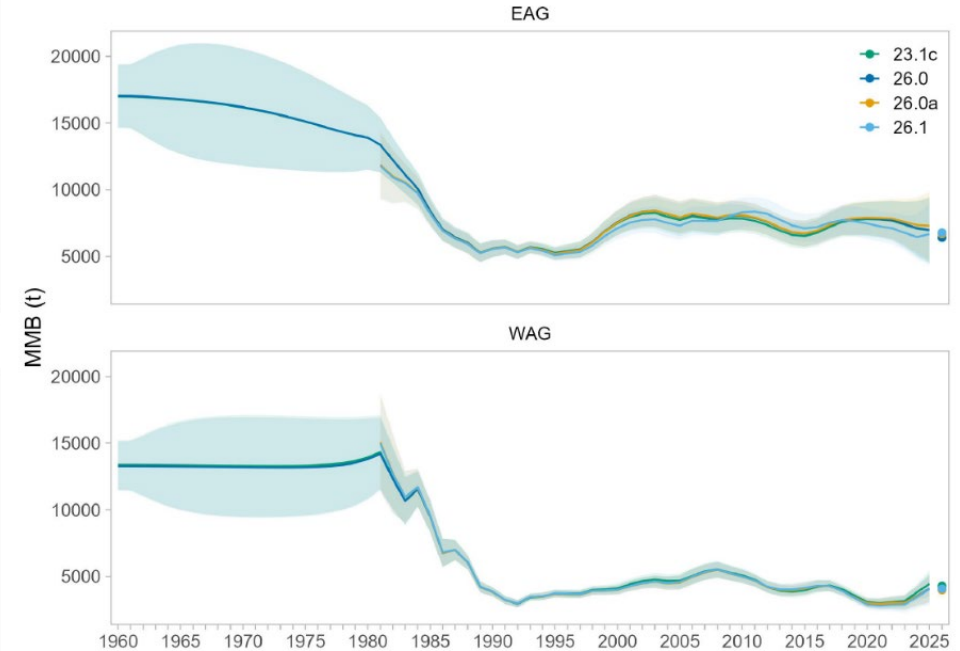
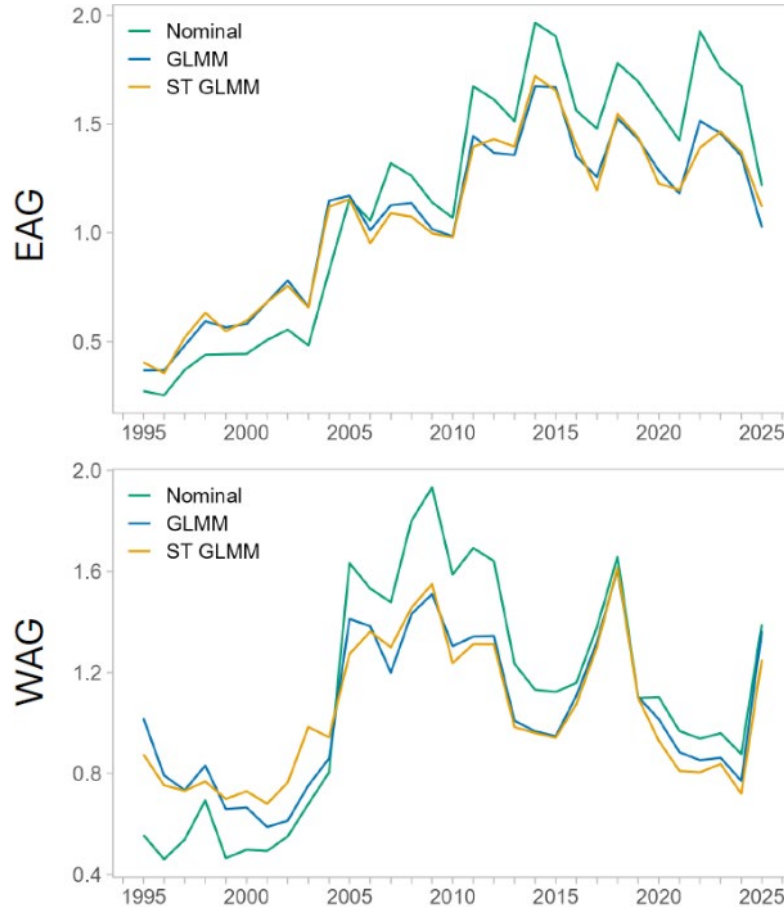


ALEUTIAN ISLAND GOLDEN KING CRAB (AIGKC)

FINAL SAFE, OFL / ABC 2026

AIGKC EXPLORATIONS

- Data updates from 2025 final assessment
 - 2025/26 Retained / Total Catch ; retained and total catch size composition
 - 2024/25, 2025/26 Groundfish Bycatch
- CPUE standardization – legacy vs. spatiotemporal
- Stock status:
 - EAG – CPUE down, biomass stable
 - WAG – CPUE up, biomass increase



FINAL SPECIFICATIONS

Table 17: Comparison of biological reference points for models 23.1c, 26.0, 26.0a, and 26.1. Stock status, F_{OFL} , and OFL are computed using the combined approach detailed in Section F above.

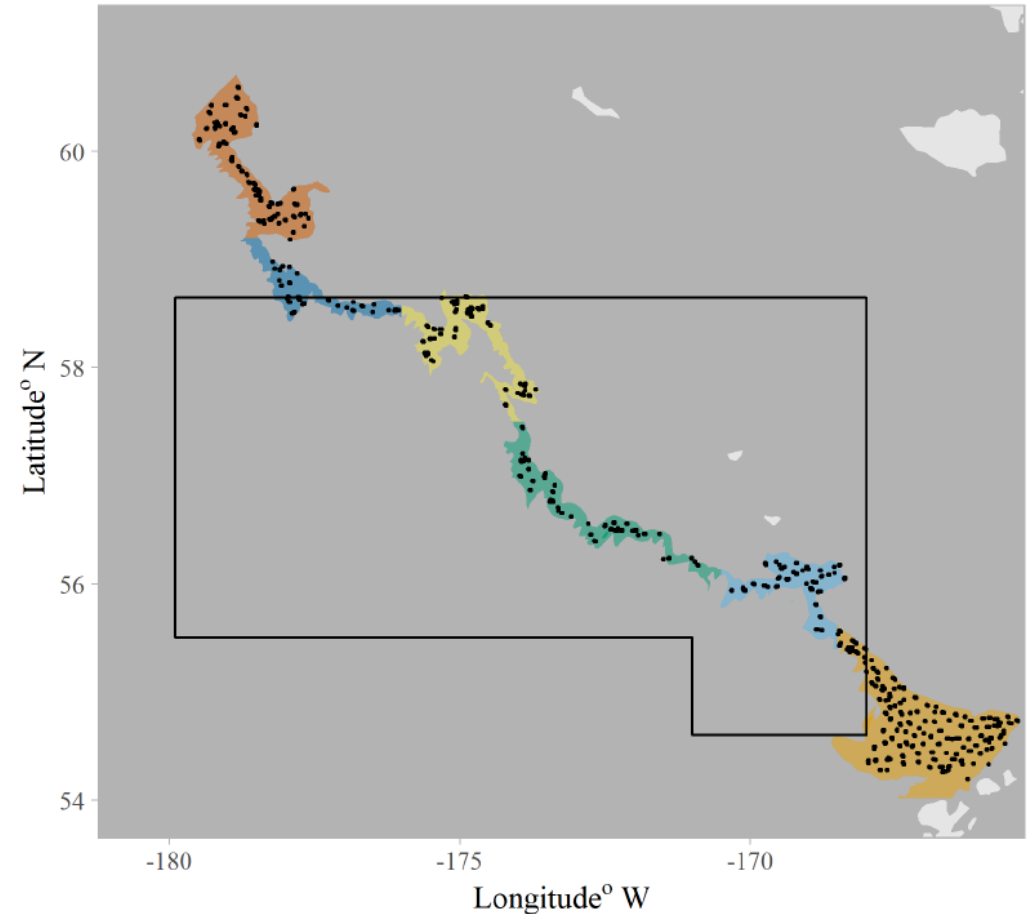
| Subdistrict | Model | MMB (t) | $B_{35\%}$ (t) | Status | $\bar{R}_{1987-2022}$ | $F_{35\%}$ | F_{OFL} | OFL (t) | Total OFL (t) |
|-------------|-------|---------|----------------|--------|-----------------------|------------|-----------|---------|---------------|
| EAG | 23.1c | 6,406 | 6,630 | 0.96 | 2,648 | 0.522 | 0.501 | 2,146 | 3,534 |
| WAG | | 4,279 | 4,488 | | | | | | |
| EAG | 26.0 | 6,412 | 6,659 | 0.94 | 2,662 | 0.518 | 0.484 | 2,104 | 3,355 |
| WAG | | 4,035 | 4,477 | | | | | | |
| EAG | 26.0a | 6,680 | 6,687 | 0.96 | 2,669 | 0.516 | 0.492 | 2,232 | 3,493 |
| WAG | | 3,990 | 4,470 | | | | | | |
| EAG | 26.1 | 6,774 | 6,590 | 0.98 | 2,631 | 0.481 | 0.472 | 2,044 | 3,343 |
| WAG | | 4,075 | 4,462 | | | | | | |

- Model 26.0a chosen for both areas:
 - Spatiotemporal model approach to CPUE Std, starts in 1981, which is closer to when index and size-composition data first become available
- 25% ABC buffer consistent with previous assessments
 - No fishery independent data,
- Recommendation: OFL = 3,493 t, ABC = 2,620 t
- Future work:
 - Re-design of cooperative survey to develop a recruitment index



PIGKC FINAL SAFE

- Triennial assessment, last assessment in 2023, no new model developments or data
- Directed fishery is opened annually by Commissioner's Permit
 - GHL of 59t (130,000 lb)
 - Low participation therefore catch data are confidential, catch does not reach the GHL
- 2023 assessment SSC recommendation was GFT Tier 5 based on EBS Slope survey data (2002, 2004, 2008, 2010, 2012, 2016) and natural mortality



Data courtesy of J. Hoff (ASFC)

PIGKC FINAL SAFE

Metric t

| Year | Tier | Biomass (MMB) | Reference Years | GHL | Retained Catch | Total Catch | OFL | ABC |
|------|------|---------------|-----------------|-----|----------------|-------------|-------|------|
| 2021 | 5 | N/A | 1993-1998 | 59 | 15.5 | 21.6 | 93.0 | 70.0 |
| 2022 | 5 | N/A | 1993-1998 | 59 | CF | CF | 93.0 | 70.0 |
| 2023 | 5 | N/A | 1993-1998 | 59 | CF | CF | 93.0 | 70.0 |
| 2024 | 5 GF | 517 | 2002-2016 | 59 | CF | CF | 113.7 | 85.3 |
| 2025 | 5 GF | 517 | 2002-2016 | 59 | CF | CF | 113.7 | 85.3 |
| 2026 | 5 GF | 517 | 2002-2016 | 59 | CF | CF | 113.7 | 85.3 |
| 2027 | 5 GF | 512 | 2002-2016 | | | | 112.6 | 84.5 |
| 2028 | 5 GF | 512 | 2002-2016 | | | | 112.6 | 84.5 |
| 2029 | 5 GF | 512 | 2002-2016 | | | | 112.6 | 84.5 |

CPT 30% buffer
ABC = 78.8 t

- OFL calculation from 2023 slightly different due to small error in mapping data to the PI management area
- CPT recommended a 30% buffer (up from 25% previously accepted)
 - It has now been 10 years since new survey data were collected increasing uncertainty
 - One-third of MMB data used are interpolated values
 - Comparability/consistency with other GKC stocks



SNOW x TANNER HYBRIDS - CPT RECOMMENDATIONS

- Do not include hybrids in assessment models
 - Sensitivity runs show limited effects of including hybrid data
 - Necessary life history data lacking for hybrids (growth, maturity, mating dynamics, etc.)
 - Higher priorities for model development, especially for snow crab
- Continue tracking hybrid abundance in annual survey Tech Memo
 - Necessary information on trends in abundance, size comps, distribution already presented in this venue
- Address hybrid abundance with current FMP flexibility
 - Possibility for adjusting ABC buffer to account for changing hybrid abundance
 - State of Alaska retains TAC-setting flexibility
 - Addressing hybrids with FMP amendment as a possible future step if current flexibility proves to be insufficient



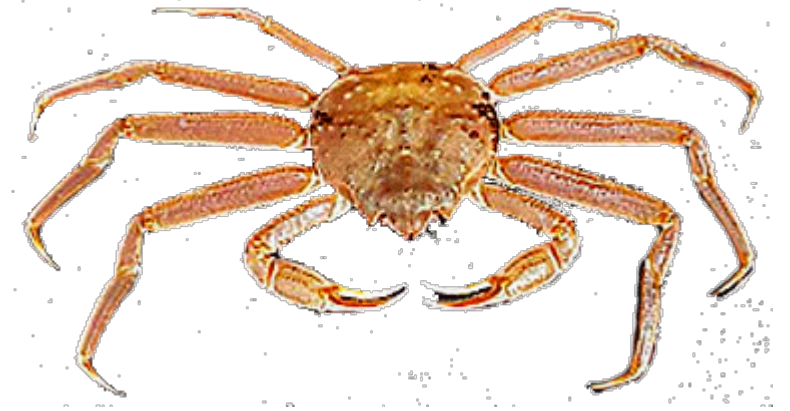


PROPOSED MODEL RUNS FALL 2026

SNOW AND TANNER CRAB PROPOSED MODEL RUNS

Tanner crab

- Bring forward bespoke model and GMACS version in September
 - CPT recommends GMACS for setting specs
 - **SSC recommended additional bridging analysis focused on OFL differences**



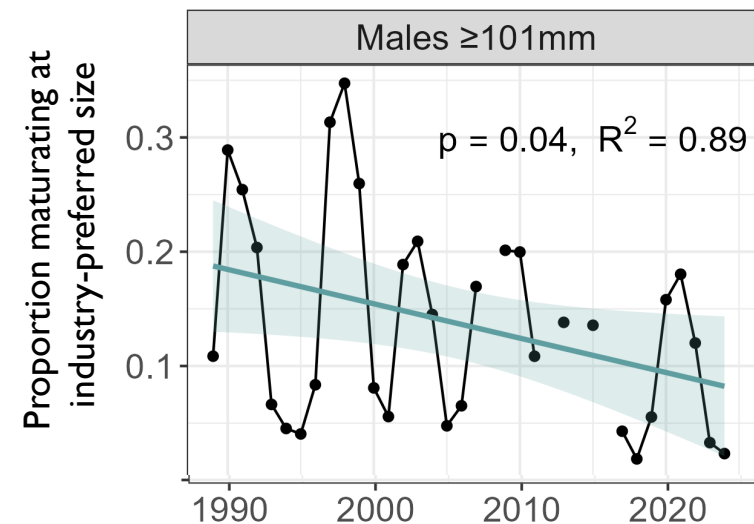
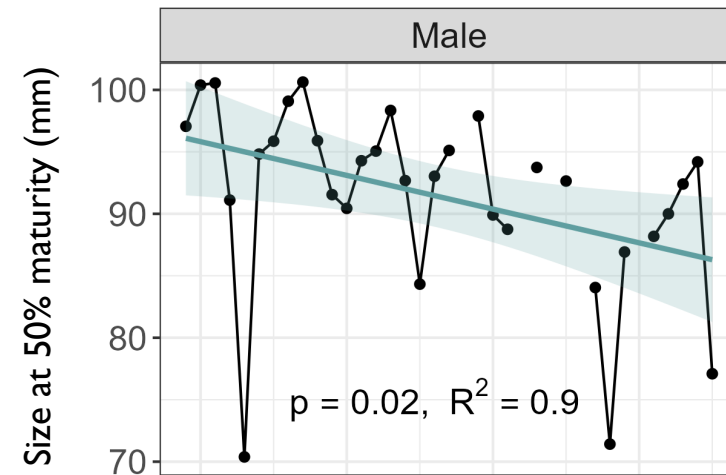
Snow crab

- Tier 3 models continue to suffer from convergence issues
- CPT expects that Tier 4 assessment will again be necessary for setting specs in 2026



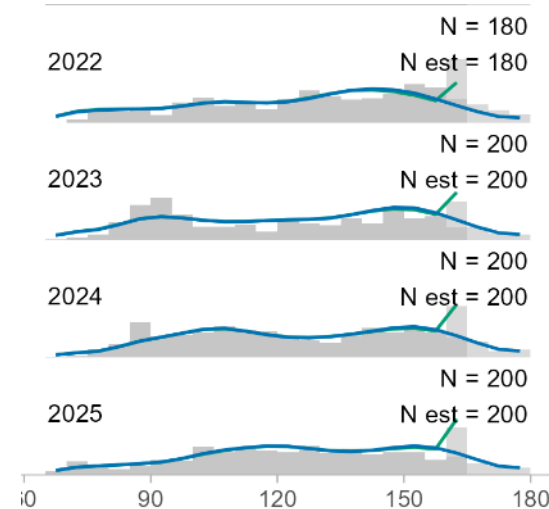
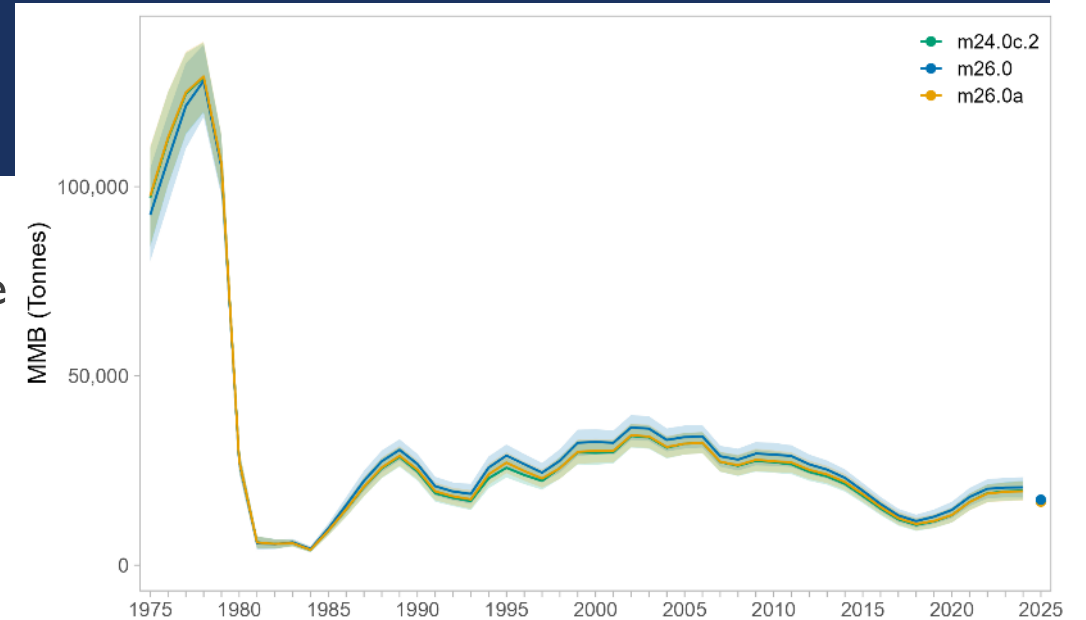
SNOW CRAB SIZE AT MATURITY RESEARCH UPDATE (E. RYZNAR, AFSC)

- Size at 50% maturity and proportion reaching industry-preferred size both show declining trend
- Mate competition (abundance of large males) drives size at maturity
 - Feedback loop: low abundance of large males reduces production of large males
 - High exploitation rate for large males also results in reduced average male size
- Consistent with Canadian research
- Suggests potential for management action to regulate production of large males
- In prep for journal submission



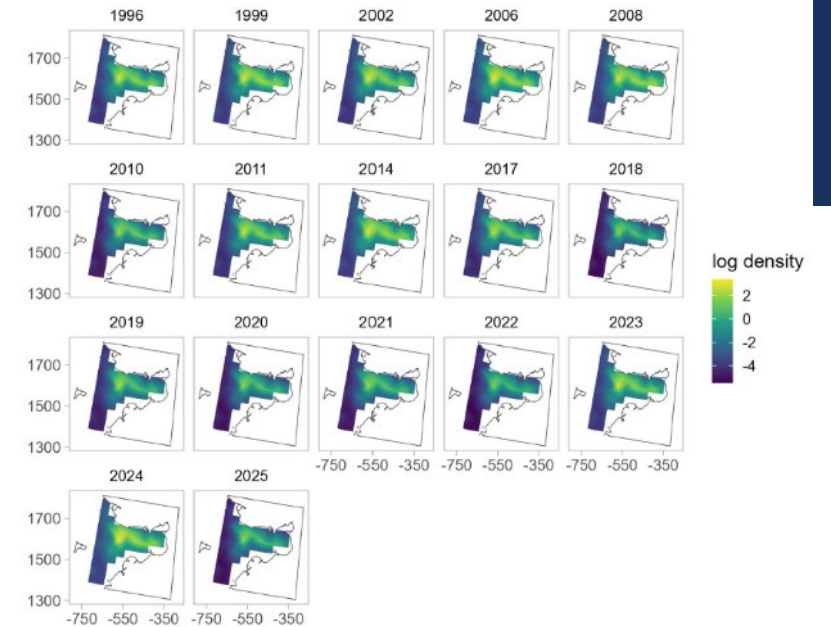
BBRKC PROPOSED MODEL WORK

- Directed fishery was open last three seasons after being closed for 2 seasons (2021/22, 2022/23) due to low mature female abundance
- Model explorations around a few themes:
 - Housekeeping updates: GMACS version updates and historical data updates
 - Increasing number of size bins for males and females in size composition data. These fit better and reduces need for plus group “build up” (recent years for NMFS male size comps to the right)
- CPT recommendations:
 - Base model, model 26.0 (increased size bins)
 - Future work: increased size bins, growth data/assumption review, Northern area red crab monitoring

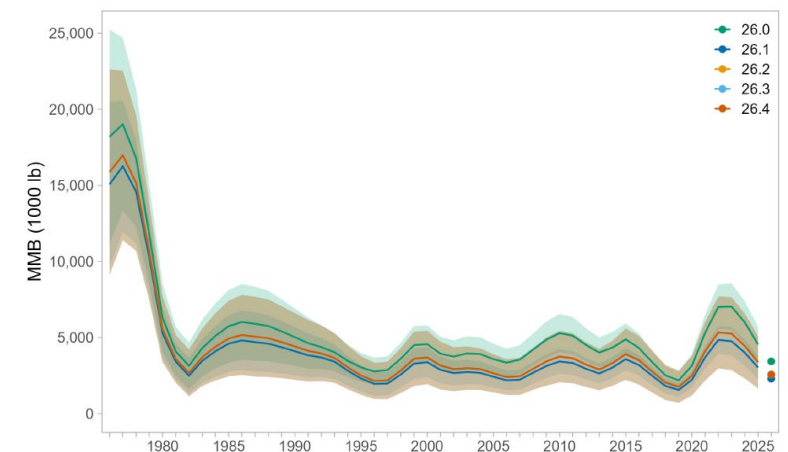


NSRKC PROPOSED MODEL WORK

- Proposed models include:
 - GMACS model updates
 - Model-based indices (align spatial footprint with the entire stock and not just the center of distribution)
 - Explorations of catchability and selectivity estimation
- CPT recommended bringing three models forward:
 - 26.0, 26.1, and 26.2
 - Both MBI models should bring forward MBI estimates with and without depth as a covariate with diagnostics
- Future work:
 - Model-based estimation for size compositions
 - Update fishery CPUE Std
 - Add subsistence catch to the assessment

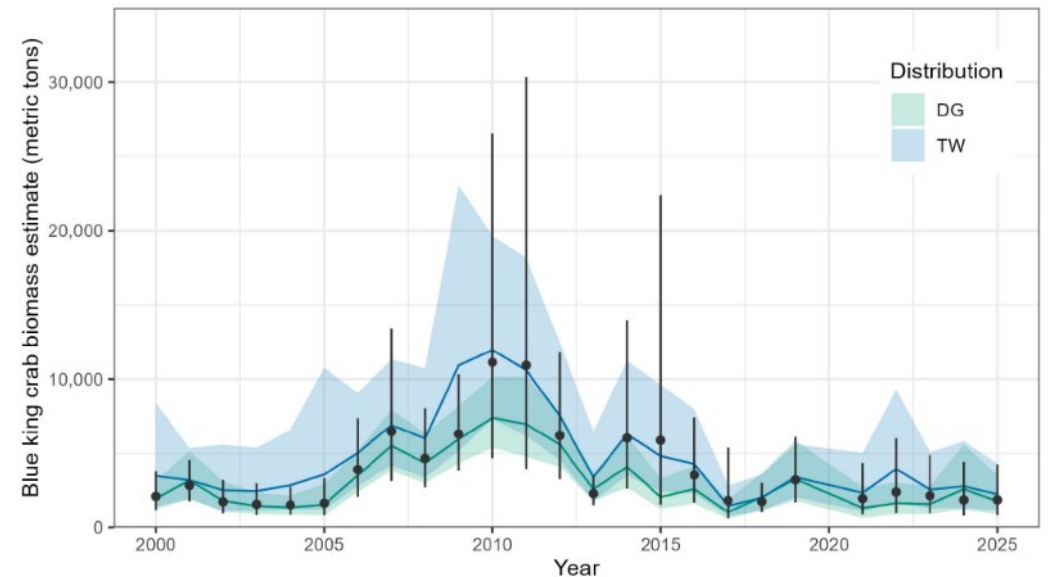
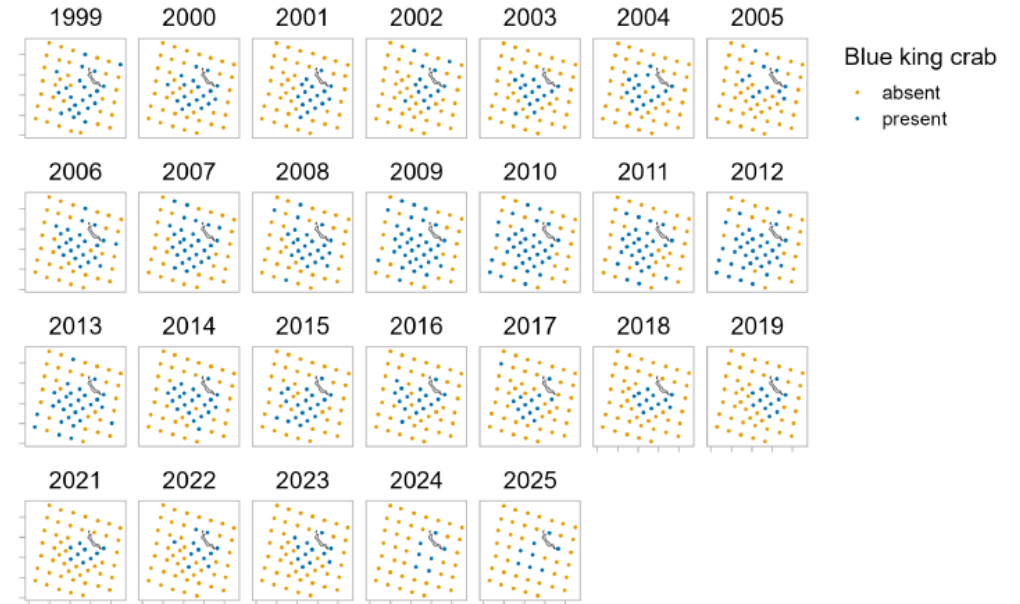


Mature male biomass



SMBKC PROPOSED MODELS

- Biennial assessment cycle, last assessment in 2024
- Currently under a rebuilding plan since 2020
- Model explorations
 - Update GMACs versions and data from “off” years
 - Model-based index (MBI) to deal with loss of “corner” stations (starting in 2023)
 - Model results are similar and this creates consistency in data over time
- CPT recommends bringing forward:
 - Model 26.1 (updated base)
 - Model 26.2 – MBI with catchability = 1
- Future work:
 - MB size-composition
 - Other SSC / CPT recommendations





BALANCE OF CPT REPORT



RISK TABLES: PROPOSED CRAB FORMAT

| | Assessment-related considerations | Population dynamics considerations | Ecosystem considerations | Fishery-informed Stock Considerations |
|----------------------|--|------------------------------------|--------------------------|---------------------------------------|
| Long-term/persistent | <ul style="list-style-type: none"> - Ongoing uncertainties related to stock specific or model specific uncertainty - Includes data related or assessment related uncertainties not accounted for in the model. - This uncertainty represents historical buffer considerations | | | |
| Current | <p>“risk table” section. Should be used similar to groundfish risk tables to determine whether we would adjust the “long-term” buffer for each stock based on current uncertainty in the risk table categories</p> | | | |
| | Level: 1,2, or 3 | Level: 1,2, or 3 | Level: 1,2, or 3 | Level: 1,2, or 3 |



QUESTIONS?

- Thanks to all CPT members and crab assessment authors.
- Congrats to Mike Litzow on his retirement!

