

# Norton Sound Red King Crab SAFE 2025

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# NSRKC GMACS Transition Update

- The author needs huge help to make a smooth transition
  - Side-by-Side Comparison
  - Configure GMACS AS closes as NSRKC Assessment model

# Configure GMAC to NSRKC Assessment model setting

- Subtract Observed Harvest (Harvest CV 0)
- Feb 01 population ( $N_w$ )
- July 01 population ( $N_s$ ): subtract catch and discards, followed by M (5 months)
- $N_s = (N_w - C_w - D_w) e^{-0.417M}$  (0.417: Feb 01 to July 01)
- After Fishery population: M to fishery, - Catch and discards  
 $N_{saf} = (N_s)^{-bfM} - C_s - D_s$  bf: fraction of year from July01 to fishery
- Feb 01 population: molting and growth, M to Feb 01, Recruitment recruitment

$$N_w = [g(N_{saf})]^{-(0.583-bf)M} + R$$

g() growth and transition

# Configure GMAC to NSRKC Assessment model setting

- Summer Trawl Survey abundance

- Case1: Survey occurs AFTER fishery (mid-fishery < mid-survey)(July 01 \*M to mid-point of fishery - harvest – Discard mortality)\*natural mortality till summer survey

$$N_{ss} = [(N_s)e^{-bfM} - C_s]e^{-afM}$$

- Case 2: Survey occurs DURING the fishery (mid-fishery > mid-survey)

(July 01 \*M to mid-point of survey - harvest occurred by mid-survey point)

$$N_{ss} = [(N_s)e^{-afM} - p_c C_s]$$

- Summer fishery CPUE abundance

July 01 abundance – 0.5\*summer harvest

$$N_{cpue} = [(N_s - 0.5C_s)]$$

# NSRKC GMACS Transition Question

- GMACS configuration to NSRKC Assessment model for side-by-side comparison
  - No-brainer: just configure the NSRKC.ctf file as .....
  - Need minor gmacsbase.tpl modifications or add personal.tpl as.....
  - Don't try: the two models are too different...
    - How close can GMACS make to the assessment model?
  - Criteria for passing the side-by-side comparison
    - How close is close enough?
- There is always an André option
  - Forget about side-by-side comparison and just transition to GMACS because André said so.....