Bridge Runs

Run 1: Turn off all indices but NEFSC Spring BTS and Rec CPA

Run 2: Update fishery catches, fishing fleets and catch WAA estimates to comm/rec fleets

Run 3: Update Spring BTS and Rec CPA – Note that input CVs for RecCPA are unrealistically small and these had to be modified in order for the ASAP models to converge

Run 4: Add 2020-2021

Run 5: Update maturity

Run 6: Add NEAMAP

Run 7: Update remaining spring state indices (added VAST as well but didn’t turn them on)

Run 8: Rec CPA and both spring and fall VAST

Run 9: Rec CPA and VAST spring only (also a combined stock run that matches the single stock results. This combined run will be used for later runs.)

Run 10: same selectivity for Recreational and Rec CPA (done. Run9 AIC is better but there are a lot more selectivity explorations that could be done. This selectivity assumption will be taken forward.)

Run 11: switch to RE for recruitment and survival (“rec+1”) (done) Retro in north is gone.

Run 12: add mixing with p move north to south and south to north fixed at 0.1 (done. AIC is worse than Run11)

Run 13: add prior p move north to south (and south to north) at 0.1(done)

Run 14: switch to logistic-normal for age comp

Run 15: estimate sd scalar for aggregate rec cpa indices (doesn’t converge)

Run 16: add AR1 on p move north to south (doesn’t converge)

Run 17: go back to RE only on recruitment (“rec”) with AR1 on movement to see if it gets better AIC than no RE on movement and “rec+1”. “rec+1” has better aic, but didn’t complete the script.

Run 7: Update remaining spring state indices (added VAST as well but didn’t turn them on)

TO DO (starting from run 7, 8 or 9):

1. Use RE instead of selectivity block for Rec fleets (use run 8 or 9) (Run 2 based off of Run 1) (DONE. Did not converge. selpars hitting upper bounds and variance of Sel re is going to 0)
   1. K: Summarize big commercial management changes and in minimum size of rec fishery
2. Examine VAST selectivity (done) Run 1
3. Turn on all indices and estimate RecCPA CV (Run 3 based off of Run 2. DONE. CVs for north and south are 10 and 7 times input CVs)
4. Random effects (rec+1)
   1. All state and federal indices + RecCPA (done) Run 1
   2. VAST + RecCPA (Run 4 based off of Run 3)
   3. NEFSC + RecCPA + NEAMAP (Run 5 based off of Run 3)
   4. Compare 3 anf 4 b,c.
5. Pick best of #3, and then…..
   1. Estimate S-R relationship?
   2. Estimate temperature impacts (recruitment)
   3. Estimate M random effects (i.e. time-varying M)
   4. Movement?

Run 1: 4a (all indices with selectivities of indices that are not just for age 1 reexamined. Results in domed selectivity for several indices. Fleet selectivity (blocks, logistic) left as is. (DONE)

Run 2: (1) above. Given Run 1 configuration, removed blocking for recreational fleet and assumed iid time varying random effects on logistic parameters. Variance of RE went to zero implying time-varying selectivity was not supported by data. (DONE)

Run 3: (3) above. Given Run 1 configuration, estimated scalar multiplier for Rec CPA indices for north and south. Estimated multipliers were about 10 and 7 times for north and south input CVs. (DONE)

Run 4: (4b) above. Given Run 3 config, exchange all indices (other than Rec CPA) for VAST indices. Use bridge run 9 dat file. (DONE)

Run 5: (4c) above. Given Run 3 config, remove all indices other than NEFSC, Rec CPA and NEAMAP. Use bridge run 6 dat file. (DONE)

Run 6: Given Run 3 config, exchange all indices (other than Rec CPA) for VAST indices (spring AND FALL). Use bridge run 8 dat file. (DONE)

TO DO

* 1. Distribution assumptions for age comps
  2. Movement
     1. Currently using 0.1 probability of movement (based on semi-annual time step of SS) but WHAM has monthly
     2. Directional movement
     3. Time-varying component
  3. Estimate S-R relationship?
  4. Estimate temperature impacts (recruitment); Keeping in mind that already incorporated into VAST
  5. Estimate M random effects (i.e. time-varying M)