September Models changes from base Model 22.3

Model22.3A

1. Changed from Dirichlet multinomial to standard multinomial for length and age comps
2. Changed fishery length composition sample size to raw number of hauls
3. Removed length composition data for years with age composition data (1994-2021)
4. Iteratively tuned using Francis method as implemented in r4ss
5. Lmin annual variability changes from dev link 1 to dev link 5
6. Richards growth parameter made annually variable
7. CV growth pattern changed from 2 SD=F(LAA) to 0 CV=f(LAA)
8. Fishery selectivity parameters 5 and 6 changed to -999
9. Fishery selectivity parameter 6 no longer time varying
10. Survey selectivity parameters 5 and 6 changed to -999
11. Dev\_SE for all time varying selectivity parameters changed to 0.7

Model 22.3B

1. Same as Model 22.3A
2. Changed to age-based selectivity

Model 22.3C.1

1. Same as Model 22.3A
2. Split fishery to 3 gears, Trawl, longline, and pot
3. Reweighting of comp data using Francis method

*Notes:*

* SS3diags runs test fail…

Model 22.3C.2

1. Same as model 22.3C.1
2. Changed to age-based selectivity
3. Used model 22.3C.1 input sample size comp weights

*Notes*

* SS3diags runs test fail…

Model 22.3D

1. Same as model 22.3A except
2. Catch data back to 1964
3. No regime change parameter

Model 22.3E.1

1. Same as model 22.3A except
2. Addition of survey mean Size at age

Notes:

* Failed runs test for fishery

Model 22.3E.2

1. Same as model 22.3A except
2. Addition of survey CAAL data
3. Removal of survey age composition data
4. Reinstatement of length composition data for 1994-2021
5. Reweighting using the Francis method

*Notes:*

* Francis weighting resulted in model failing runs test.
* Reweighting to pass runs tests results in higher weight on fishery lengths and survey CAAL.