Herring MSE Results
metrics and models

Jon Deroba - NEFSC NMFS
Atlantic Herring MSE Workshop #2
December 7-8, 2016
Herring MSE Results
metrics and models

Very generally examine the effect of:
- assessment bias
- production and growth
- control rules
Effect of Assessment Bias

Assessment bias produces less biomass, similar yield, and less natural deaths.
Effect of Assessment Bias

Assessment bias produces more frequent overfished/overfishing, similar closures, similar proportions of young fish
Effect of Assessment Bias

Assessment bias produces less biomass, similar variation in yield, slightly higher yield, and slight increase in yield compared to natural deaths.
Herring MSE Results
metrics and models

Very generally examine the effect of:

- assessment bias
- production and growth
- control rules
Effect of Operating Model

No Assessment Bias

Low Production, Good Growth  Low Production, Poor Growth  Hi Production, Good Growth  Hi Production, Poor Growth

Growth has minor effect, but production matters more
Effect of Operating Model
No Assessment Bias

Low Production, Good Growth
Low Production, Poor Growth
Hi Production, Good Growth
Hi Production, Poor Growth

Growth has minor effect, but production matters more
Effect of Operating Model

No Assessment Bias

Growth and production have relatively minor effect – OM doesn’t matter for these metrics
Herring MSE Results
metrics and models

Very generally examine the effect of:

- assessment bias
- production and growth
- control rules
Effect of Control Rule
No Assessment Bias

Broad performance; CC has more options that reduce SSB
Effect of Control Rule
No Assessment Bias

Overfished rarely occurs; proportion young unaffected; else as expected
BB3yrPerc and CC have low variation but less yield; BB policies are similar
Herring MSE Results

metrics and models

Assessment bias performs as expected
  make early decisions with no bias then revisit
Production more important than growth
  rely on metrics robust to OM then revisit others
Control rules have broad performance
  Begin to think tradeoffs