

Extra Analyses - h, R0
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Extra Analyses - MSY
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Extra Analyses - σ_R
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Identification and performance of stock-recruitment functions in state space assessment models - Extras

Working Paper 1

Greg Britten, Liz Brooks, Tim Miller

2024-02-14

Extra Analyses - h, R0
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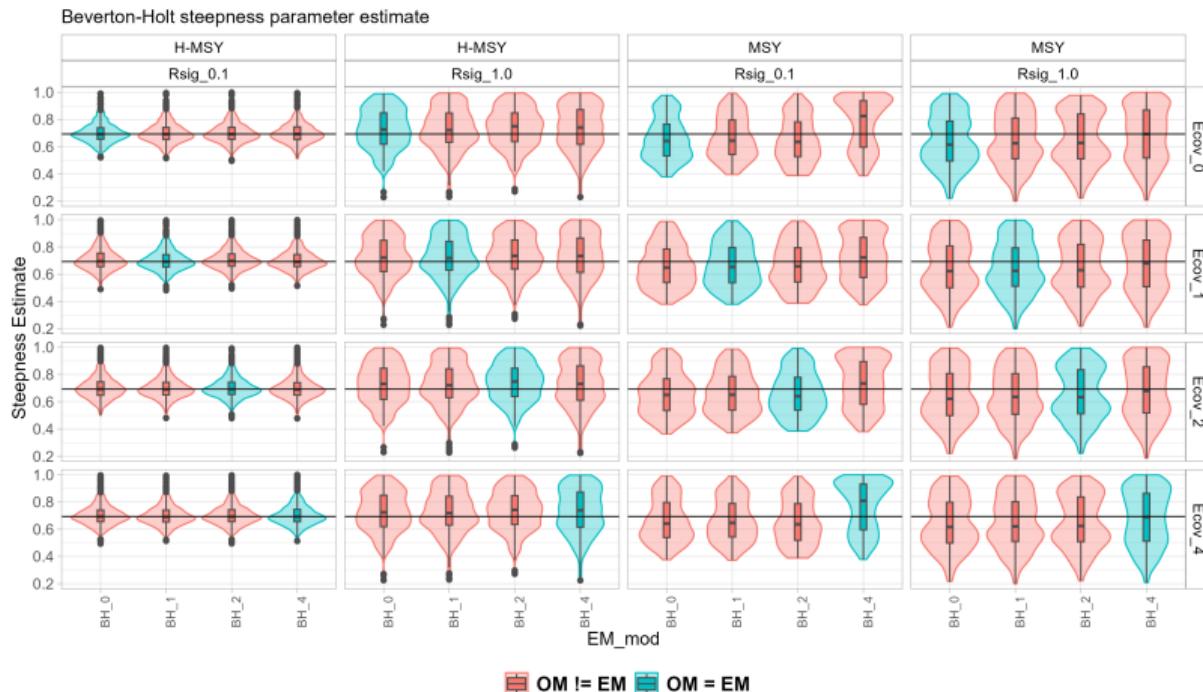
Extra Analyses - MSY
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Extra Analyses - σ_R
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Extra Analyses - h, R0

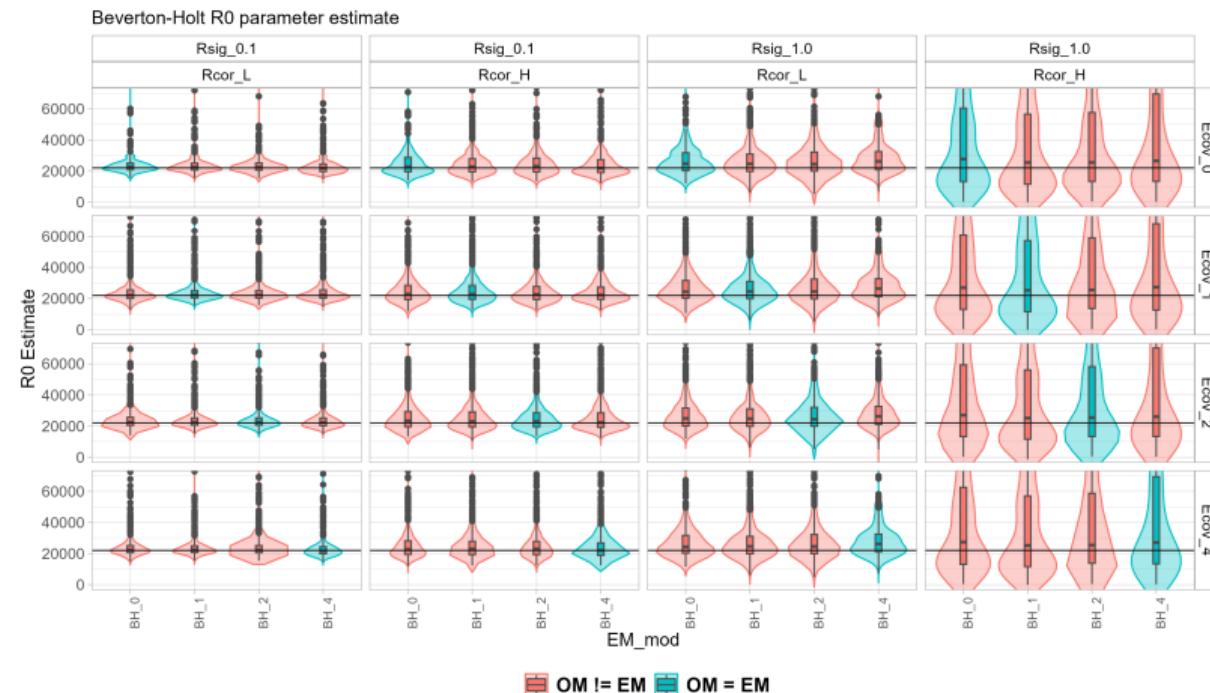
Steepness (h) estimates

- Estimates correspond to single ('static') a,b in the BH and 'static' replacement line
- Only unbiased with high fishing contrast and low σ_R



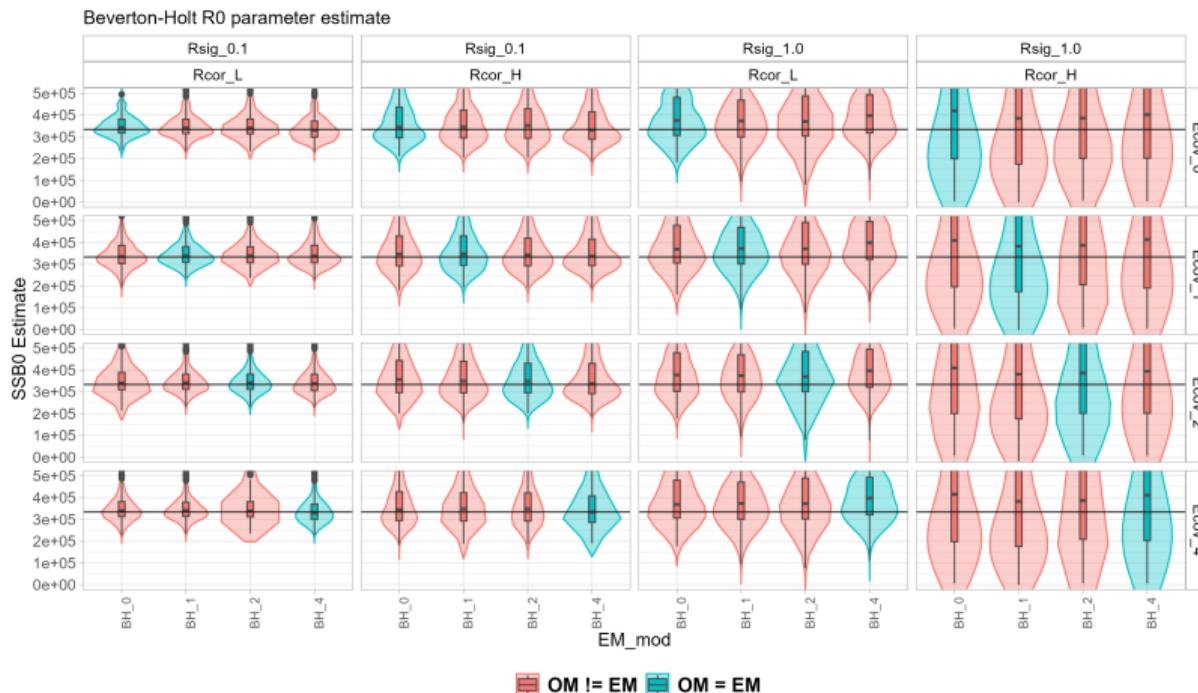
Unexploited recruitment (R_0) estimates

- Estimates correspond to single ('static') a,b in the BH and 'static' replacement line
- Only unbiased at low σ_R ; ρ_R increases range of estimates



Unexploited SSB (SSB0) estimates

- Estimates correspond to single ('static') a,b in the BH and 'static' replacement line
- Only unbiased at low σ_R ; ρ_R increases range of estimates



Extra Analyses - h, R0
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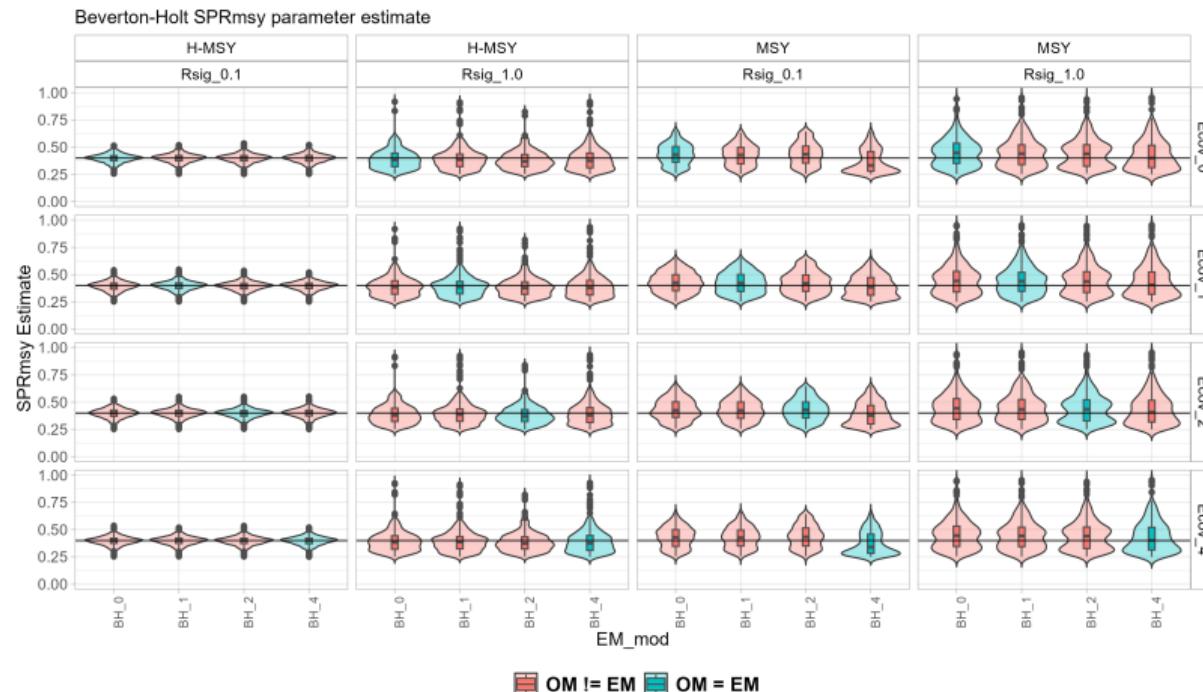
Extra Analyses - MSY
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Extra Analyses - σ_R
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Extra Analyses - MSY

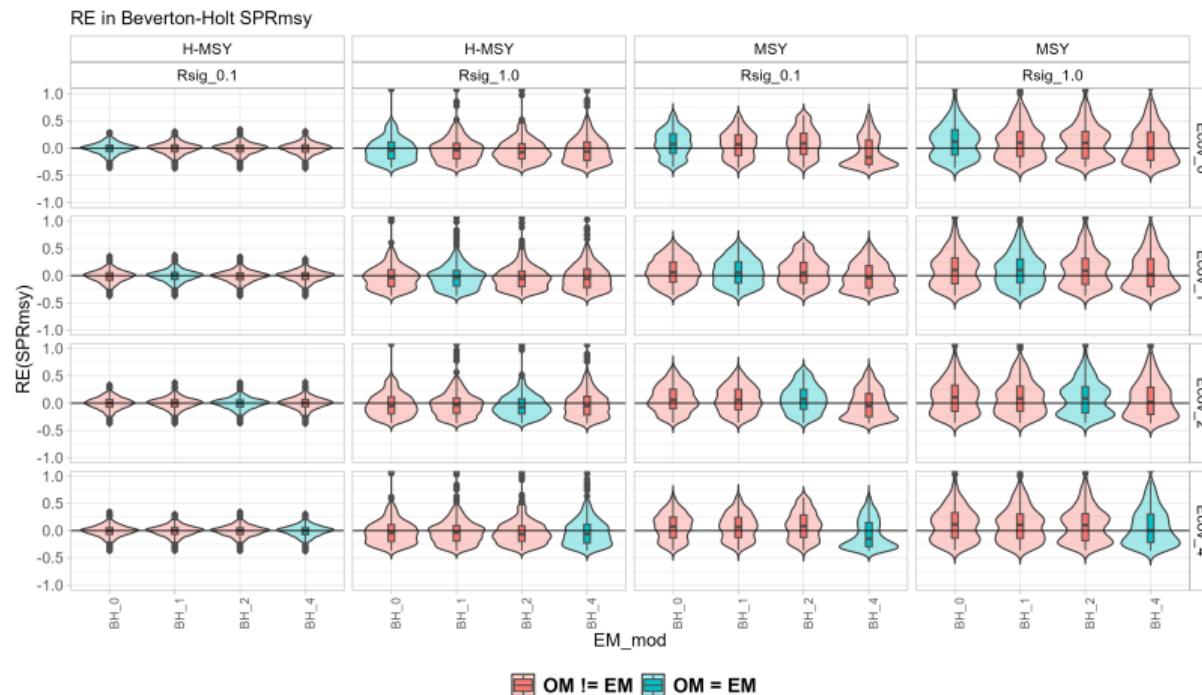
SPR_{MSY}

- Median unbiased at low σ_R and high contrast in fishing history



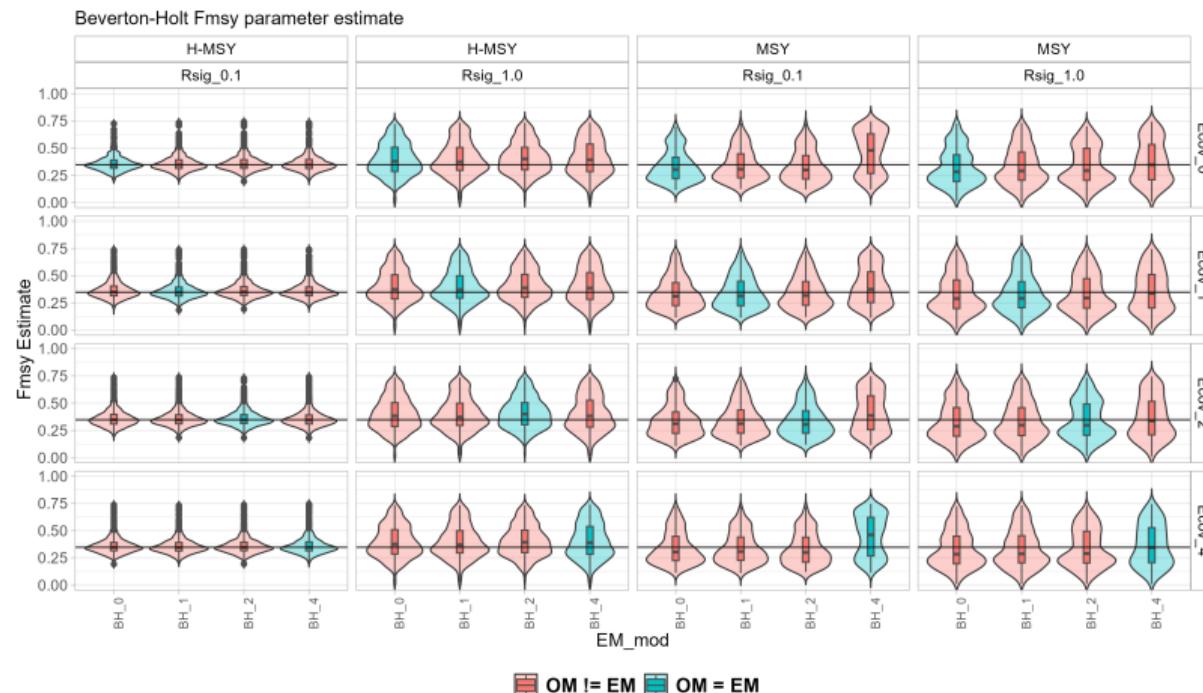
Relative Error in SPR_{MSY}

- Median unbiased at low σ_R and high contrast in fishing history



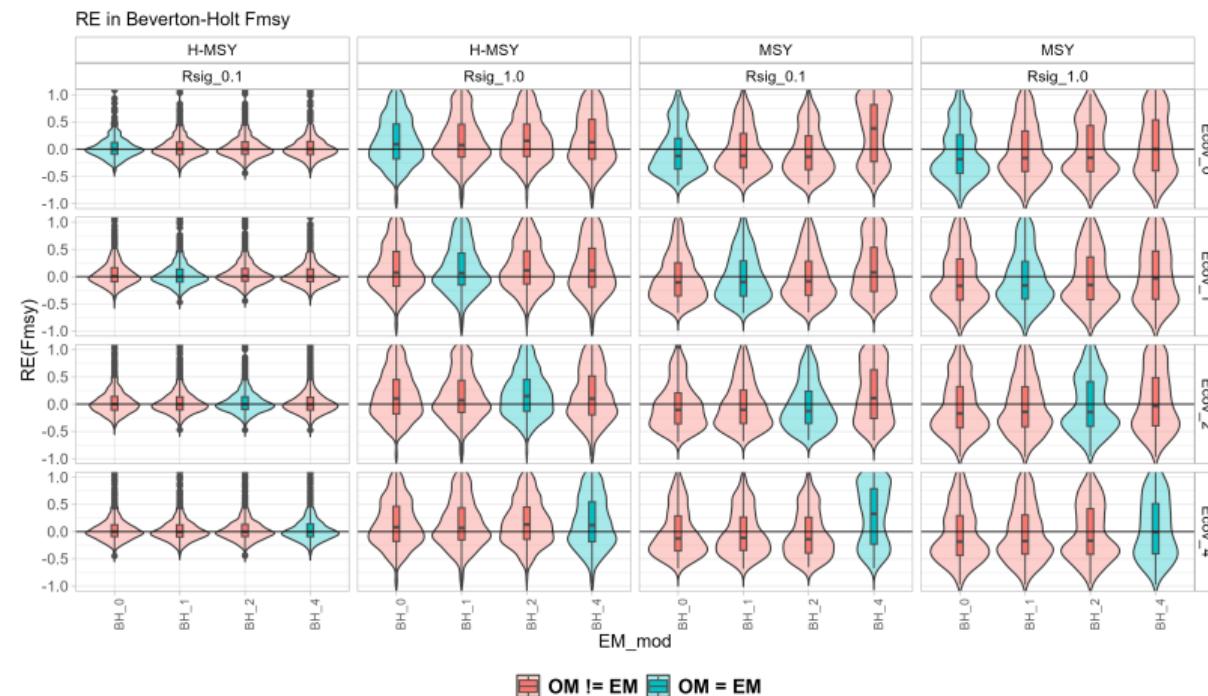
F_{MSY}

- Median unbiased at low σ_R and high contrast in fishing history



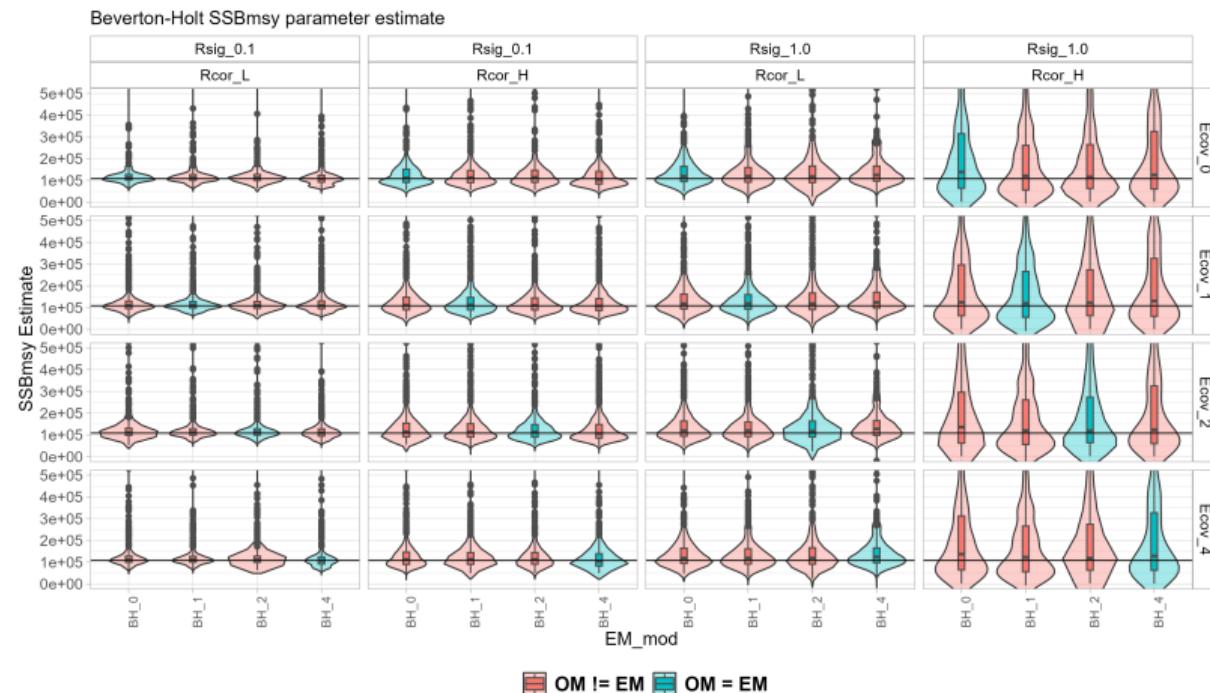
Relative Error in F_{MSY}

- Median unbiased at low σ_R and high contrast in fishing history



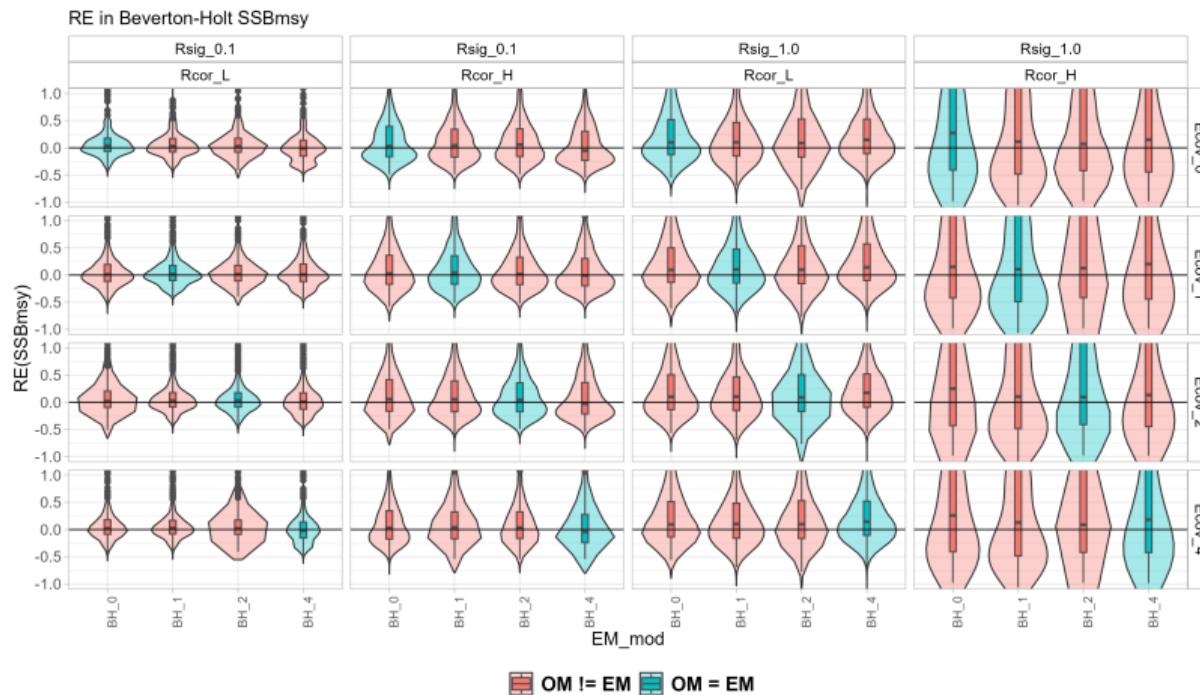
SSB_{MSY}

- Median unbiased at low σ_R



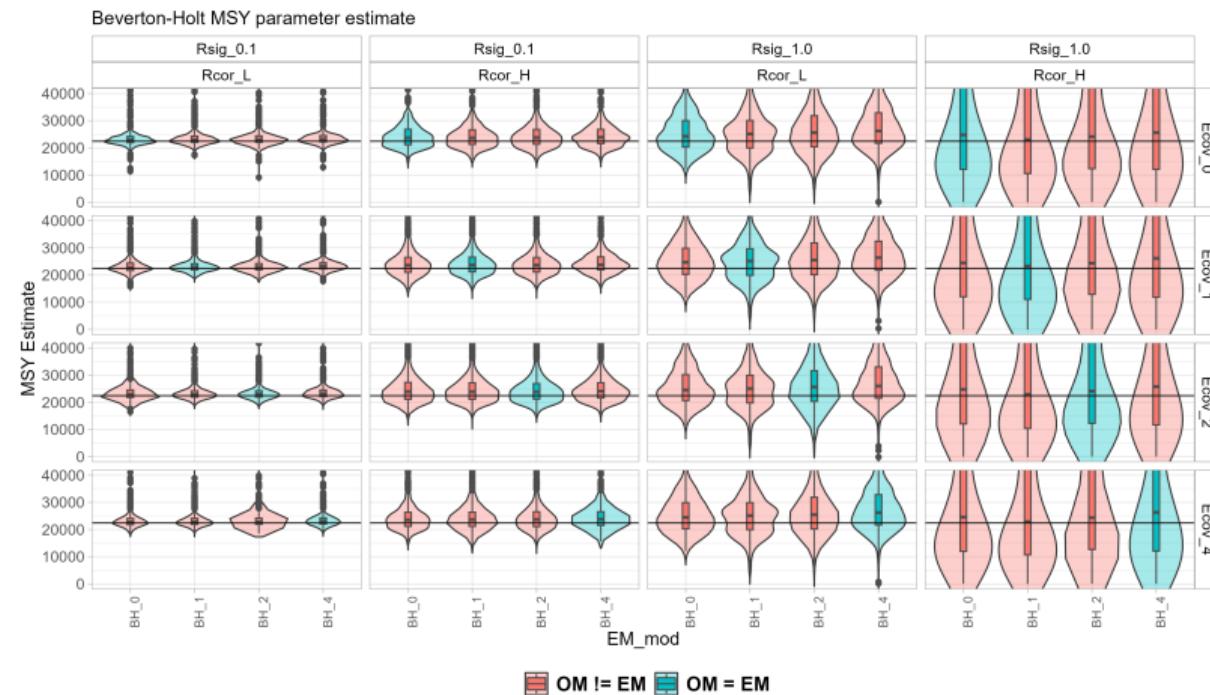
Relative Error in SSB_{MSY}

- Median unbiased at low σ_R



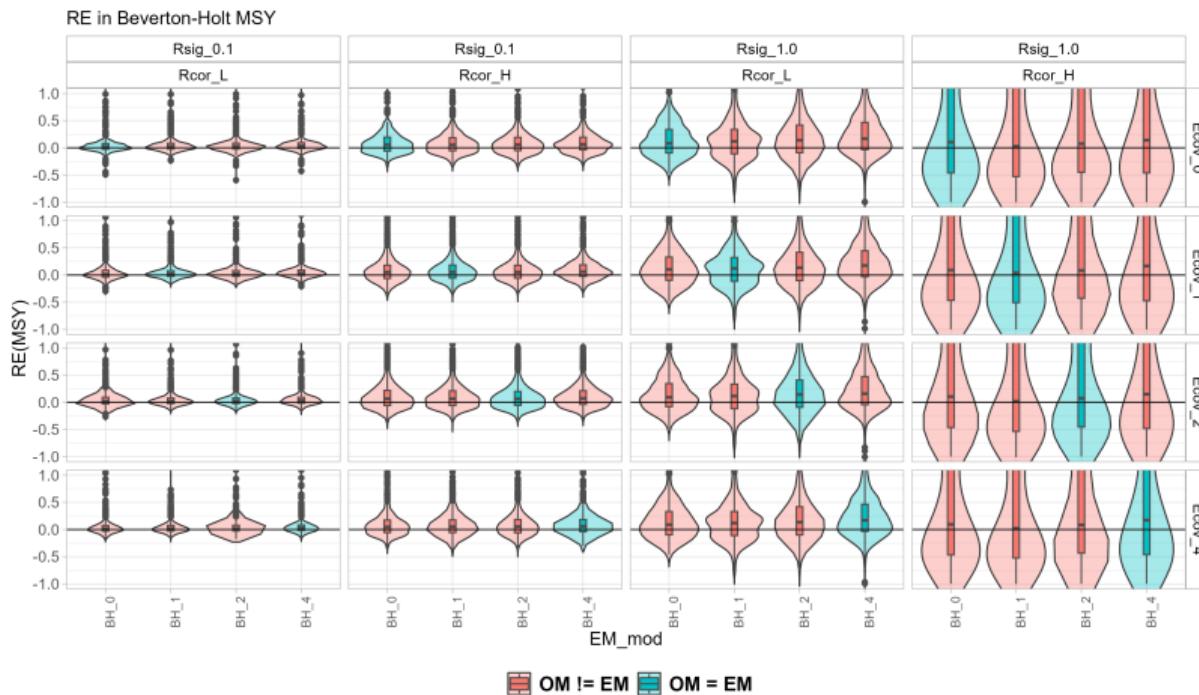
MSY

- Median unbiased at low σ_R



Relative Error in MSY

- Median unbiased at low σ_R



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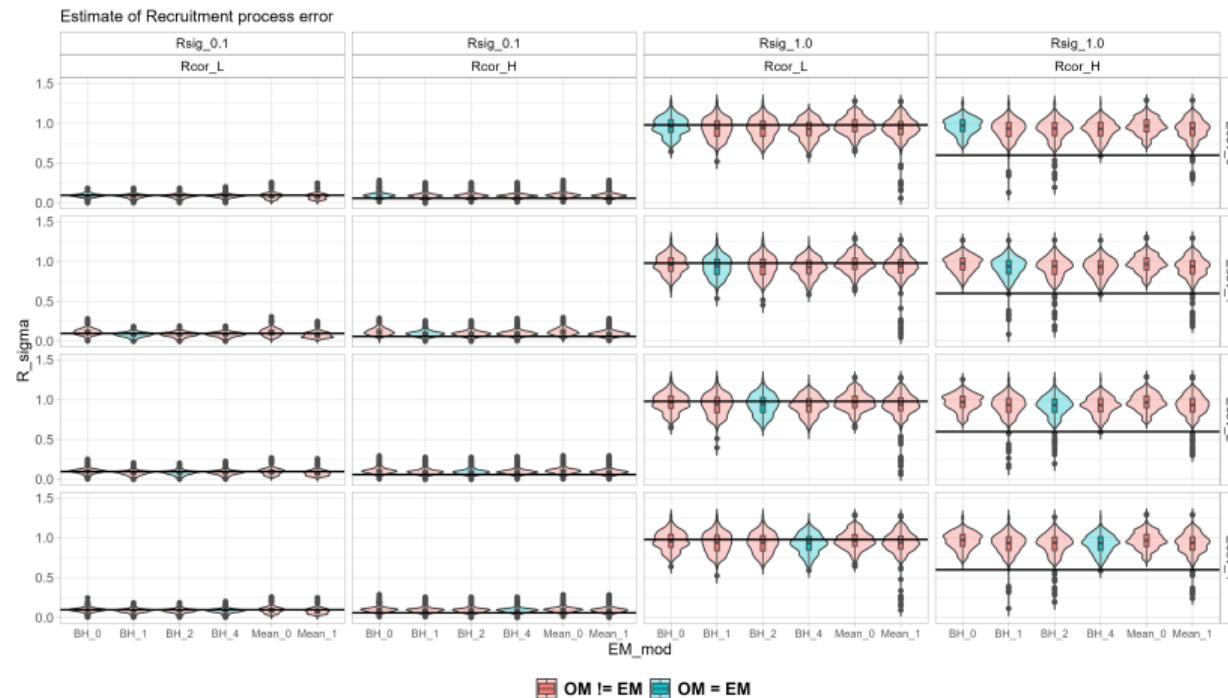
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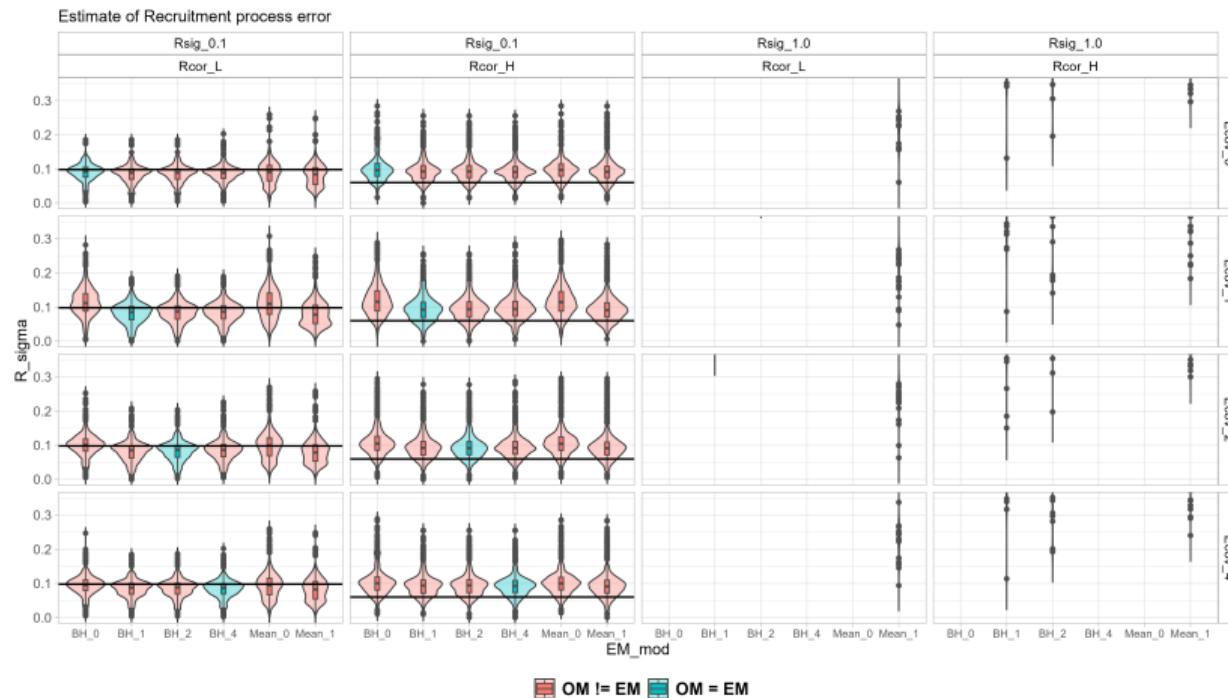
σ_R Estimates

- Estimates not really larger for mean SRR; less bias with low ρ_R



σ_R Estimates

- Estimates not really larger for mean SRR; less bias with low ρ_R



Acknowledgements

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- We thank other members of the SSRTWG for thoughtful comments during earlier discussions and presentations of this work

