# Cross test using Operating Model based on Life History

LBSPR, length based assessment

L Kell 24 July, 2018

### $\mathbf{OM}$

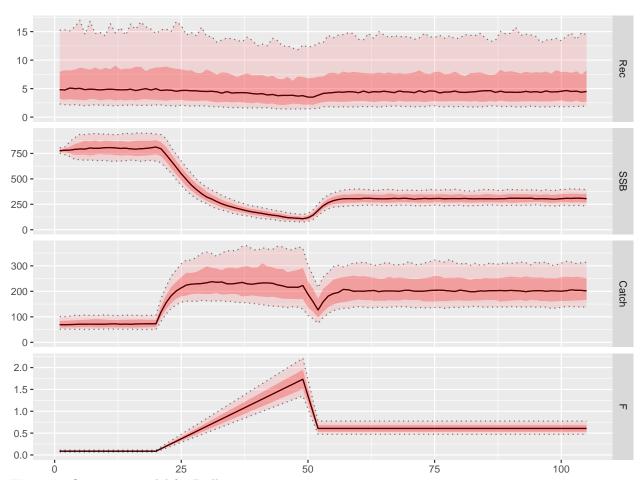


Figure 1 Operating model for Brill.

## OEM

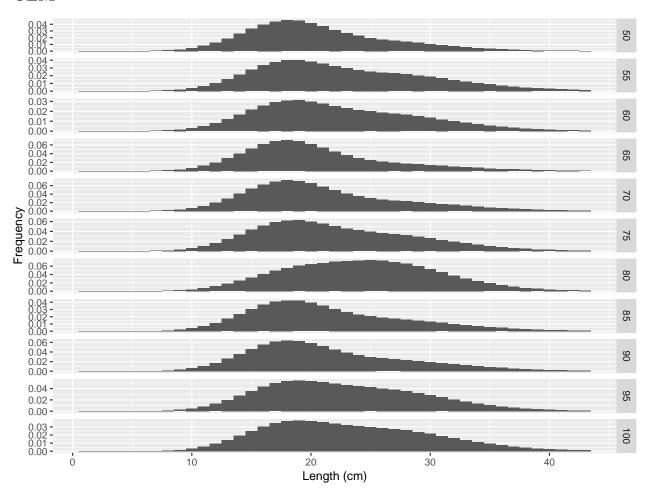


Figure 2 Catch size data .

# $\mathbf{MP}$

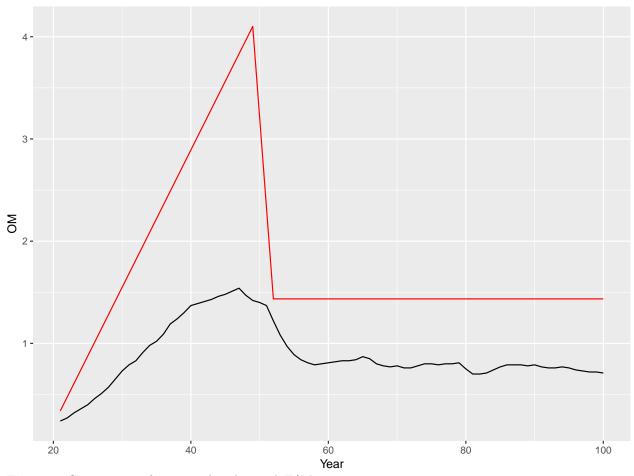


Figure 3 Comparison of estimated and actual F/M ratios.

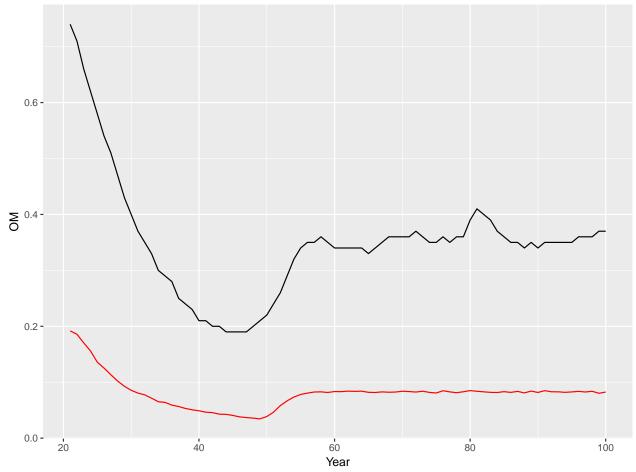


Figure 4 Estimated SPR.

#### Session Info

R version 3.4.1 (2017-06-30) Platform: x86\_64-pc-linux-gnu (64-bit) Running under: Ubuntu 16.04.2 LTS Matrix products: default BLAS: /usr/lib/libblas/libblas.so.3.6.0 LAPACK: /usr/lib/lapack/liblapack.so.3.6.0 locale: [1] LC CTYPE=en US.UTF-8 LC NUMERIC=C [3] LC\_TIME=en\_GB.UTF-8 LC\_COLLATE=en\_US.UTF-8 [5] LC MONETARY=en GB.UTF-8 LC MESSAGES=en US.UTF-8 [7] LC\_PAPER=en\_GB.UTF-8 LC\_NAME=C [9] LC ADDRESS=C LC\_TELEPHONE=C [11] LC MEASUREMENT=en GB.UTF-8 LC IDENTIFICATION=C attached base packages: [1] stats graphics grDevices utils datasets methods base other attached packages: [1] LBSPR\_0.1.2 FLife\_3.2.0 FLBRP\_2.5.3 ggplotFL\_2.6.4 [5] FLCore\_2.6.9 ggplot2\_3.0.0 lattice\_0.20-35 dplyr\_0.7.6 [9] reshape\_0.8.7 plyr\_1.8.4 knitr\_1.20 loaded via a namespace (and not attached): [1] Rcpp\_0.12.18 RColorBrewer\_1.1-2 pillar\_1.1.0 [4] compiler 3.4.1 bindr 0.1.1 tools 3.4.1 [7] digest\_0.6.15 evaluate\_0.10.1  $tibble_1.4.2$ [10] gtable 0.2.0 pkgconfig\_2.0.1 rlang\_0.2.1 [13] Matrix\_1.2-10 yaml\_2.1.18 bindrcpp\_0.2.2 [16] gridExtra\_2.3 withr\_2.1.2 stringr\_1.3.1 [19] stats4\_3.4.1 rprojroot\_1.3-2 grid\_3.4.1 [22] tidyselect 0.2.4 glue 1.2.0 R6 2.2.2 [25] plotrix\_3.7 rmarkdown 1.9 FLRP 1.0.1.9002 [28] reshape2\_1.4.3  $tidyr_0.7.1$ purrr\_0.2.5 [31] magrittr\_1.5 codetools\_0.2-15 backports\_1.1.2 [34] scales\_0.5.0 htmltools\_0.3.6 MASS\_7.3-47

colorspace\_1.3-2

lazyeval\_0.2.1

#### Software Versions

[37] assertthat\_0.2.0

[40] stringi\_1.2.3

- R version 3.4.1 (2017-06-30)
- FLCore: 2.6.9FLife: 3.2.0FLBRP: 2.5.3
- Compiled: Tue Jul 24 10:28:51 2018

labeling\_0.3

munsell\_0.5.0

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#### Acknowledgements

This vignette and many of the methods documented in it were developed under the MyDas project funded by the Irish exchequer and EMFF 2014-2020. The overall aim of MyDas is to develop and test a range of assessment models and methods to establish Maximum Sustainable Yield (MSY) reference points (or proxy MSY reference points) across the spectrum of data-limited stocks.

### References