Random Grid

Figs

L Kell & A Tidd

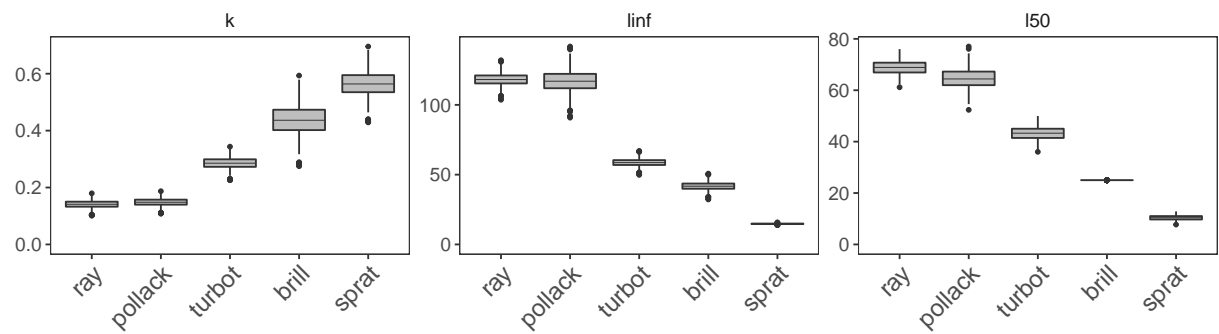*08 November, 2018*

Life history parameters
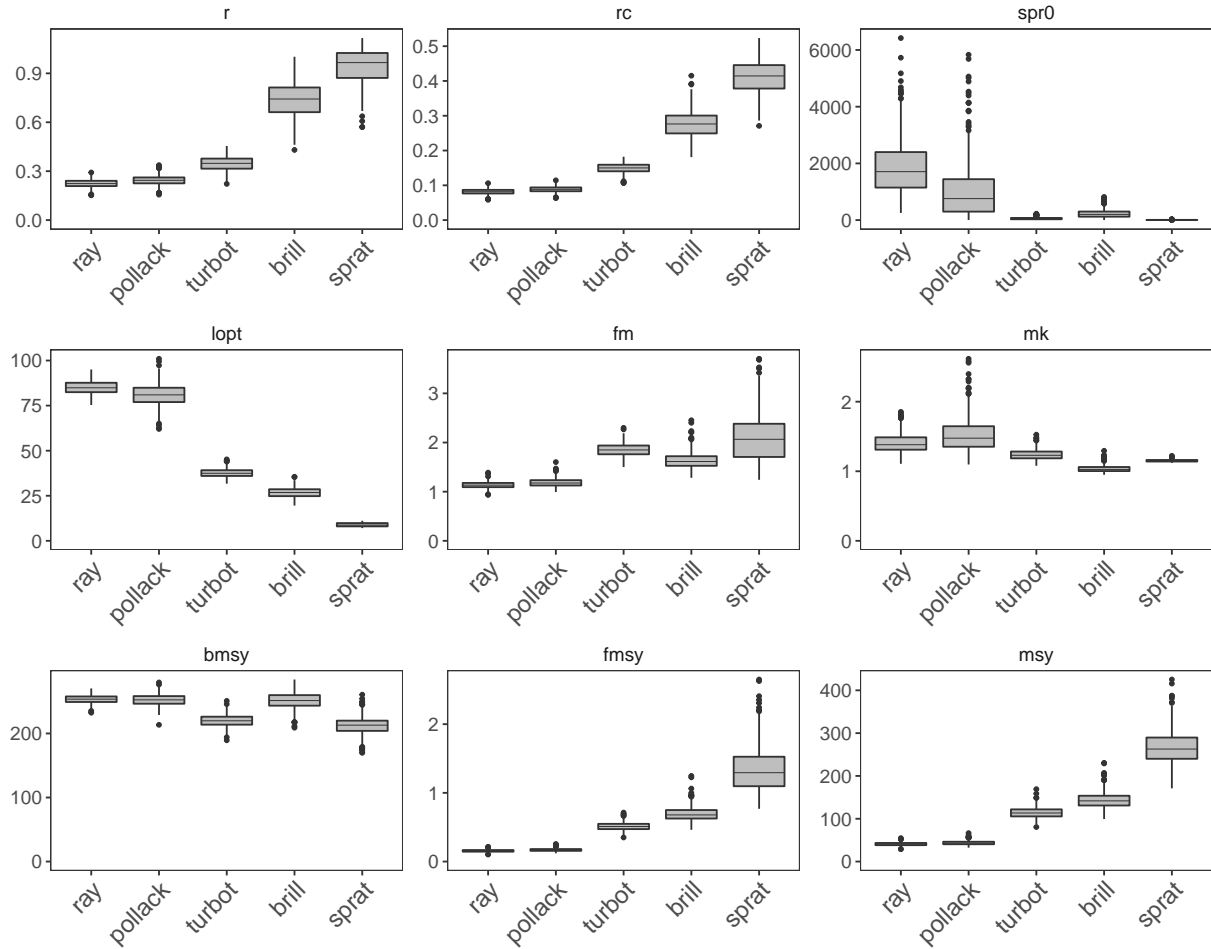

Figure 1 Life history parameters.

Figure 2 Reference points.

Equilibrium dynamics

The parameters are then used by `lhEql` to simulate the equilibrium dynamics by combining the spawner/yield per recruit relationships with a stock recruiment relationship.
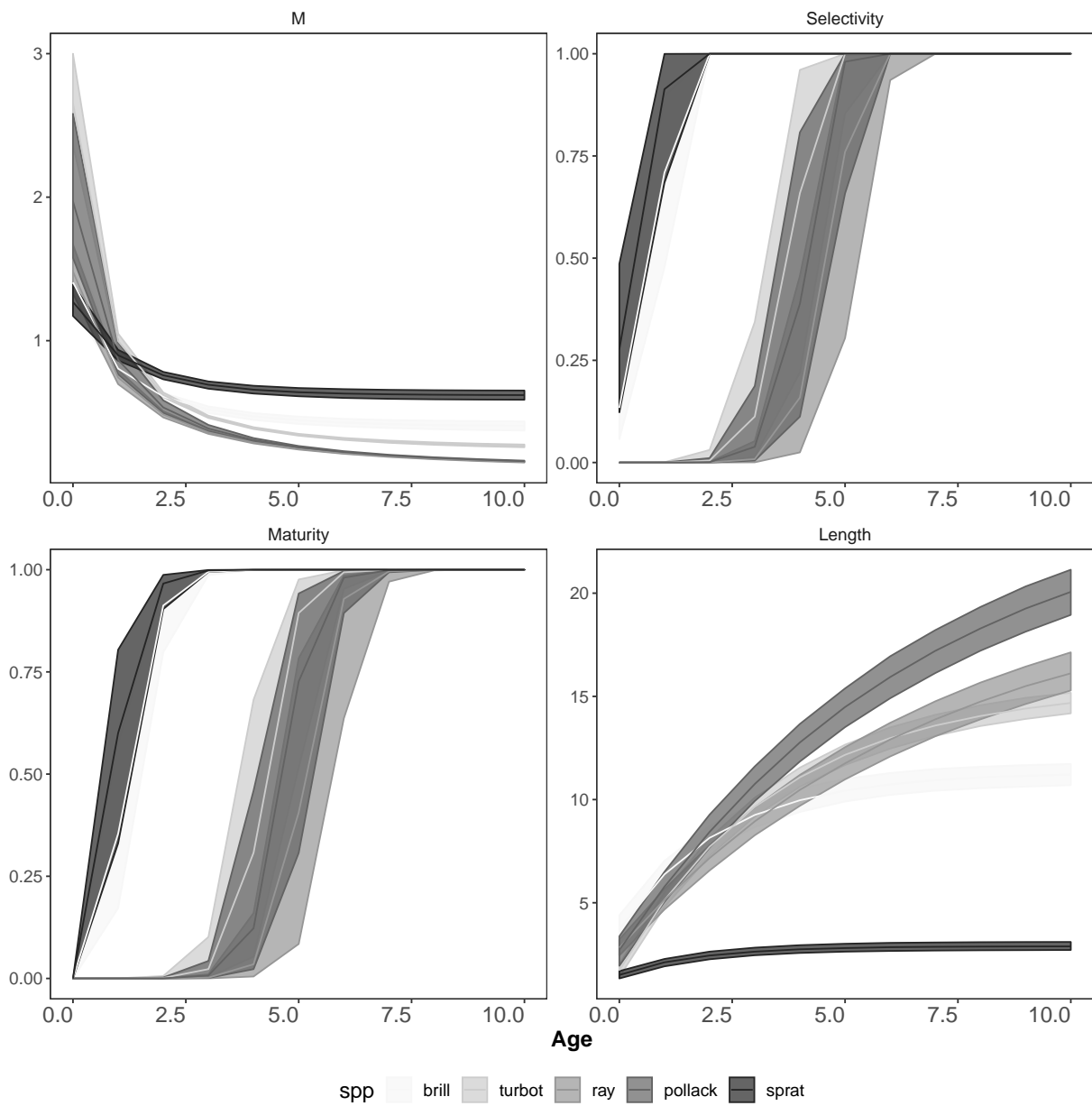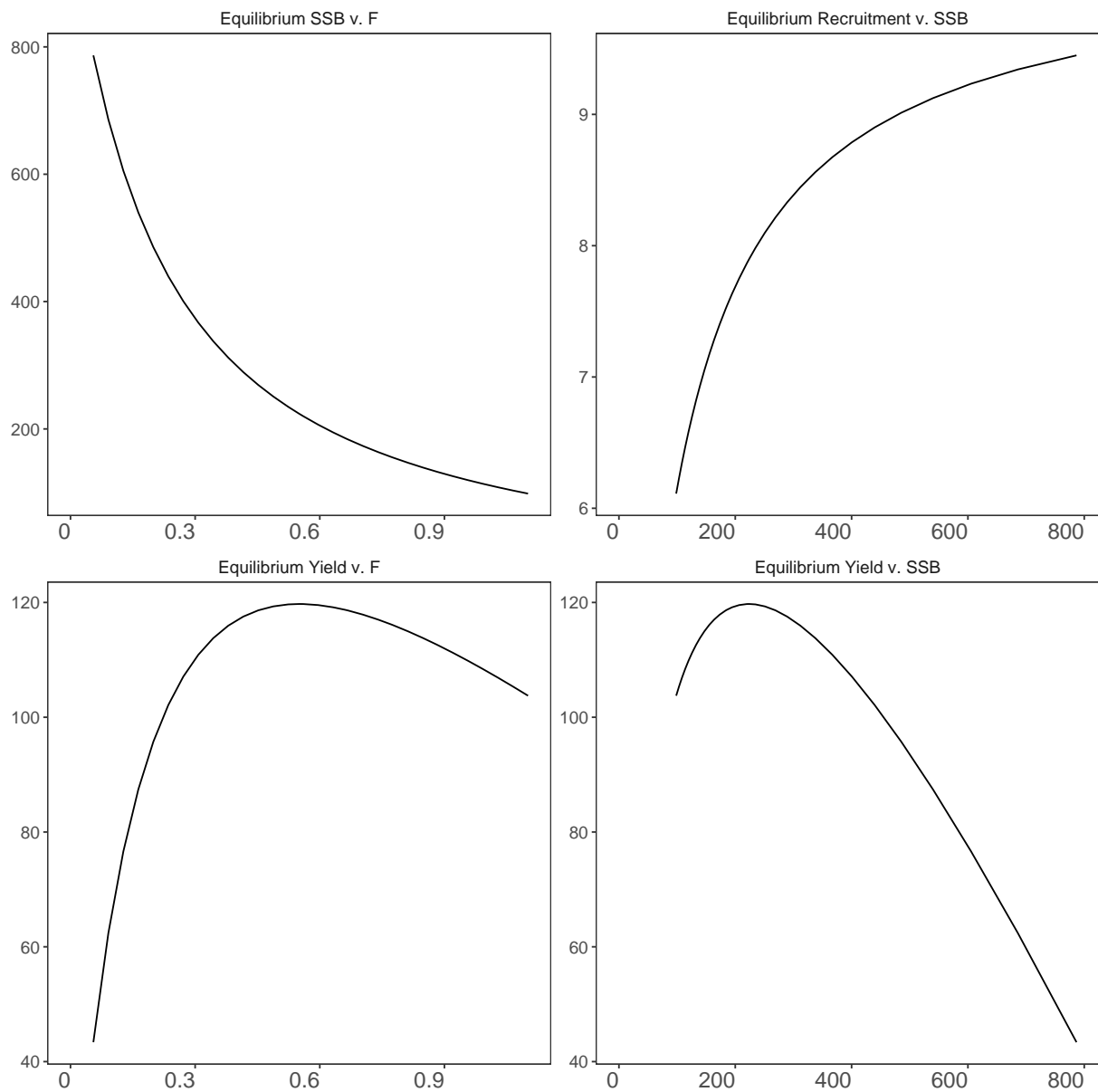
Figure 3 Vectors.

Figure 4 Equilibrum Curves.
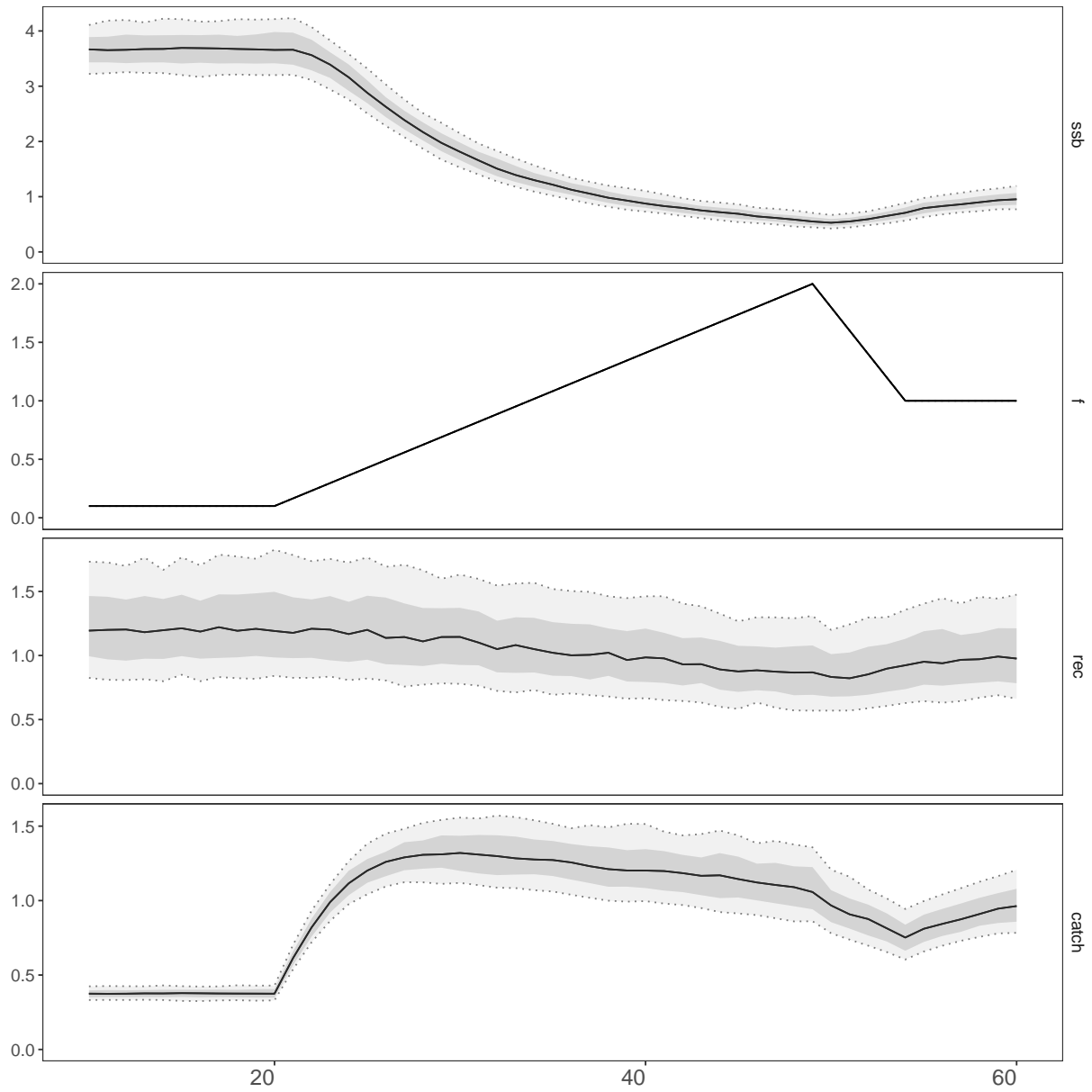
Population dynamics

Figure 5 Time series relative to MSY benchmarks.

Software Versions

- R version 3.5.0 (2018-04-23)
- FLCore: 2.6.9.9007
- FLBRP: 2.5.3
- FLasher: 0.5.0
- FLife: 3.2.1
- ggplotFL: 2.6.4
- **Compiled**: Thu Nov 08 15:32:13 2018

Author information

Laurence Kell. laurie@seaplusplus.es

Acknowledgements

References

Session Info

```
R version 3.5.0 (2018-04-23)
Platform: x86_64-w64-mingw32/x64 (64-bit)
Running under: Windows 10 x64 (build 17134)

Matrix products: default

locale:
[1] LC_COLLATE=English_United Kingdom.1252
[2] LC_CTYPE=English_United Kingdom.1252
[3] LC_MONETARY=English_United Kingdom.1252
[4] LC_NUMERIC=C
[5] LC_TIME=English_United Kingdom.1252

attached base packages:
[1] stats     graphics  grDevices utils     datasets  methods   base

other attached packages:
 [1] FLife_3.2.1           ggplotFL_2.6.4        FLasher_0.5.0
 [4] FLFishery_0.1.5.9001  FLBRP_2.5.3           FLCore_2.6.9.9007
 [7] lattice_0.20-35       GGally_1.4.0          reshape_0.8.7
[10] dplyr_0.7.6           plyr_1.8.4            ggplot2_3.0.0
[13] knitr_1.20

loaded via a namespace (and not attached):
 [1] Rcpp_0.12.16        pillar_1.2.3        compiler_3.5.0
 [4] RColorBrewer_1.1-2  bindr_0.1.1         tools_3.5.0
 [7] digest_0.6.15       evaluate_0.11       tibble_1.4.2
[10] gtable_0.2.0        pkgconfig_2.0.1     rlang_0.2.1
[13] Matrix_1.2-14       yaml_2.1.19         bindrcpp_0.2.2
[16] gridExtra_2.3       withr_2.1.2         stringr_1.3.0
[19] stats4_3.5.0        rprojroot_1.3-2     grid_3.5.0
[22] tidyselect_0.2.4    glue_1.2.0          R6_2.2.2
[25] rmarkdown_1.10      reshape2_1.4.3      purrr_0.2.5
[28] magrittr_1.5        codetools_0.2-15    backports_1.1.2
[31] scales_0.5.0        htmltools_0.3.6     MASS_7.3-49
[34] assertthat_0.2.0    colorspace_1.3-2    labeling_0.3
[37] stringi_1.1.7       lazyeval_0.2.1      munsell_0.5.0
```