

Random Grid

Figs

L Kell & A Tidd

15 November, 2018

Life history parameters

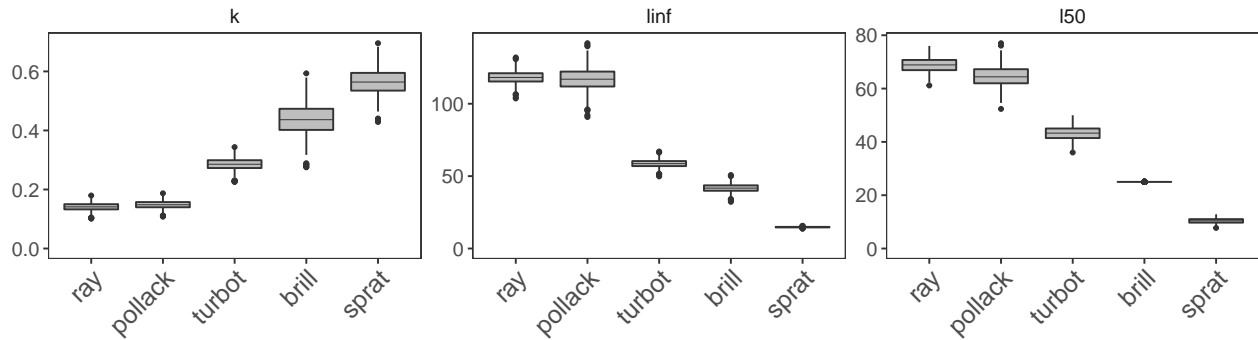


Figure 1 Life history parameters.

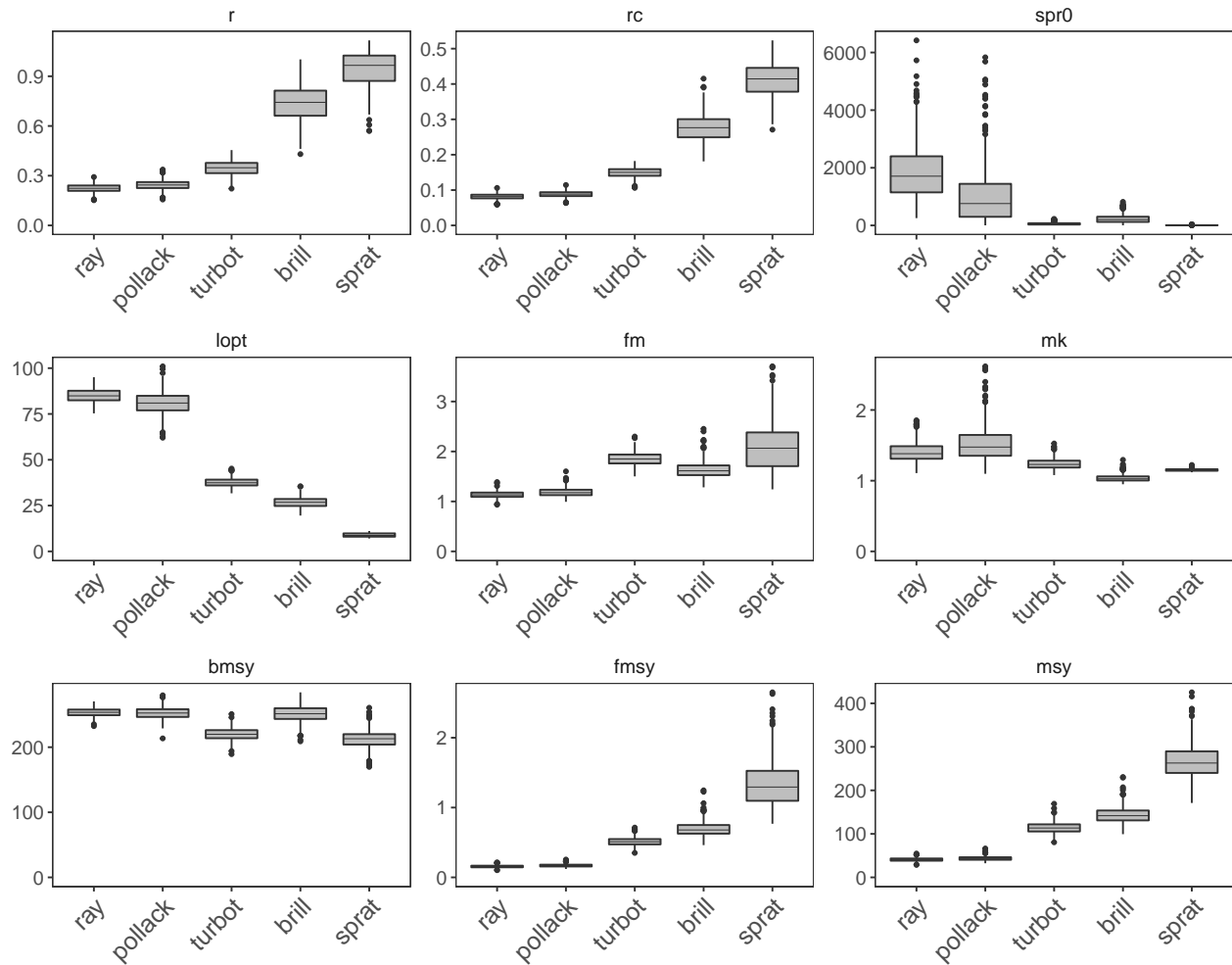


Figure 2 Reference points.

Equilibrium dynamics

The parameters are then used by `lhEq1` to simulate the equilibrium dynamics by combining the spawner/yield per recruit relationships with a stock recruitment relationship.

```
[1] 1
[1] "length" "params"
[1] 2
```

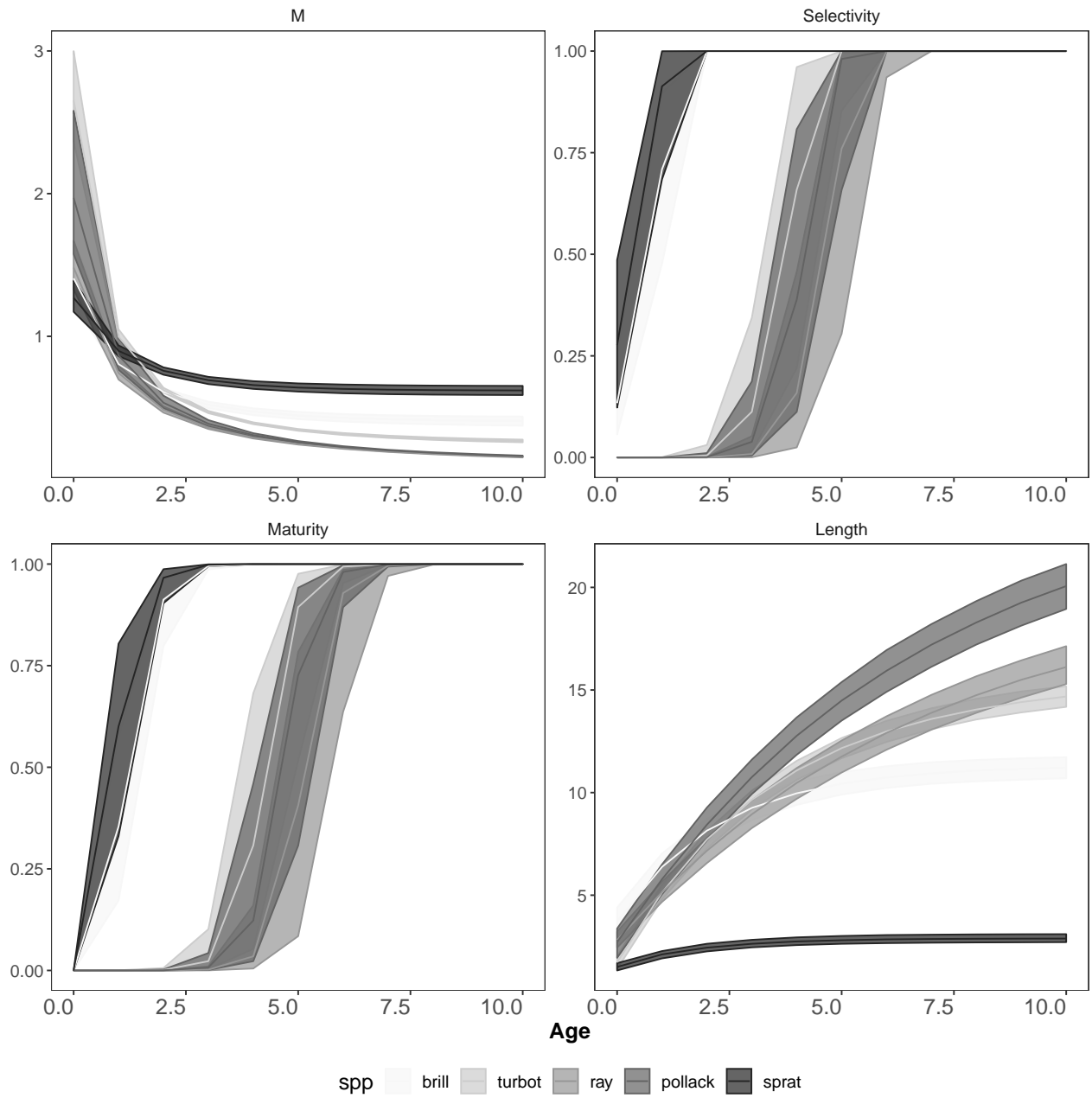


Figure 3 Vectors.

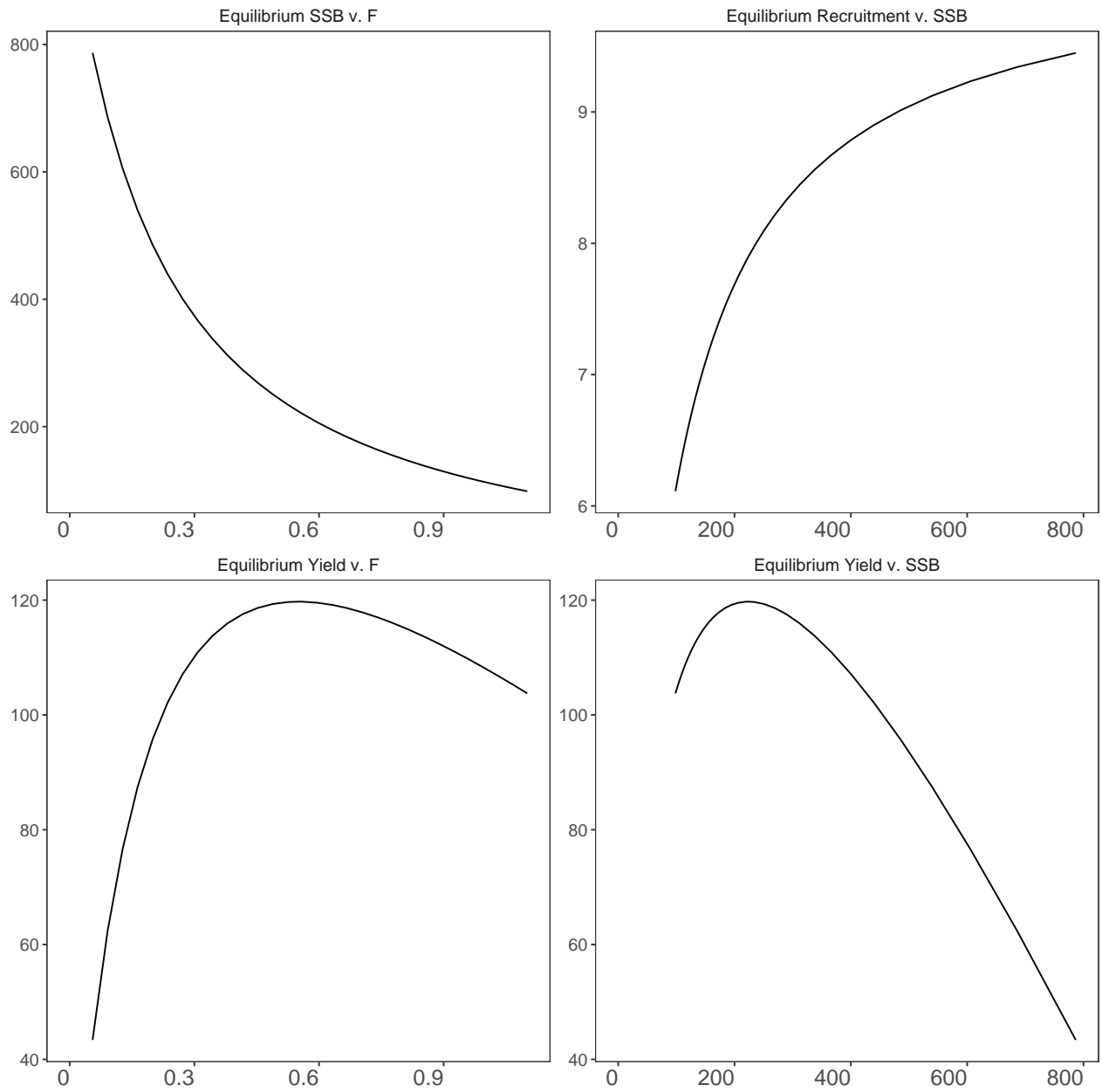


Figure 4 Equilibrium Curves.

Population dynamics

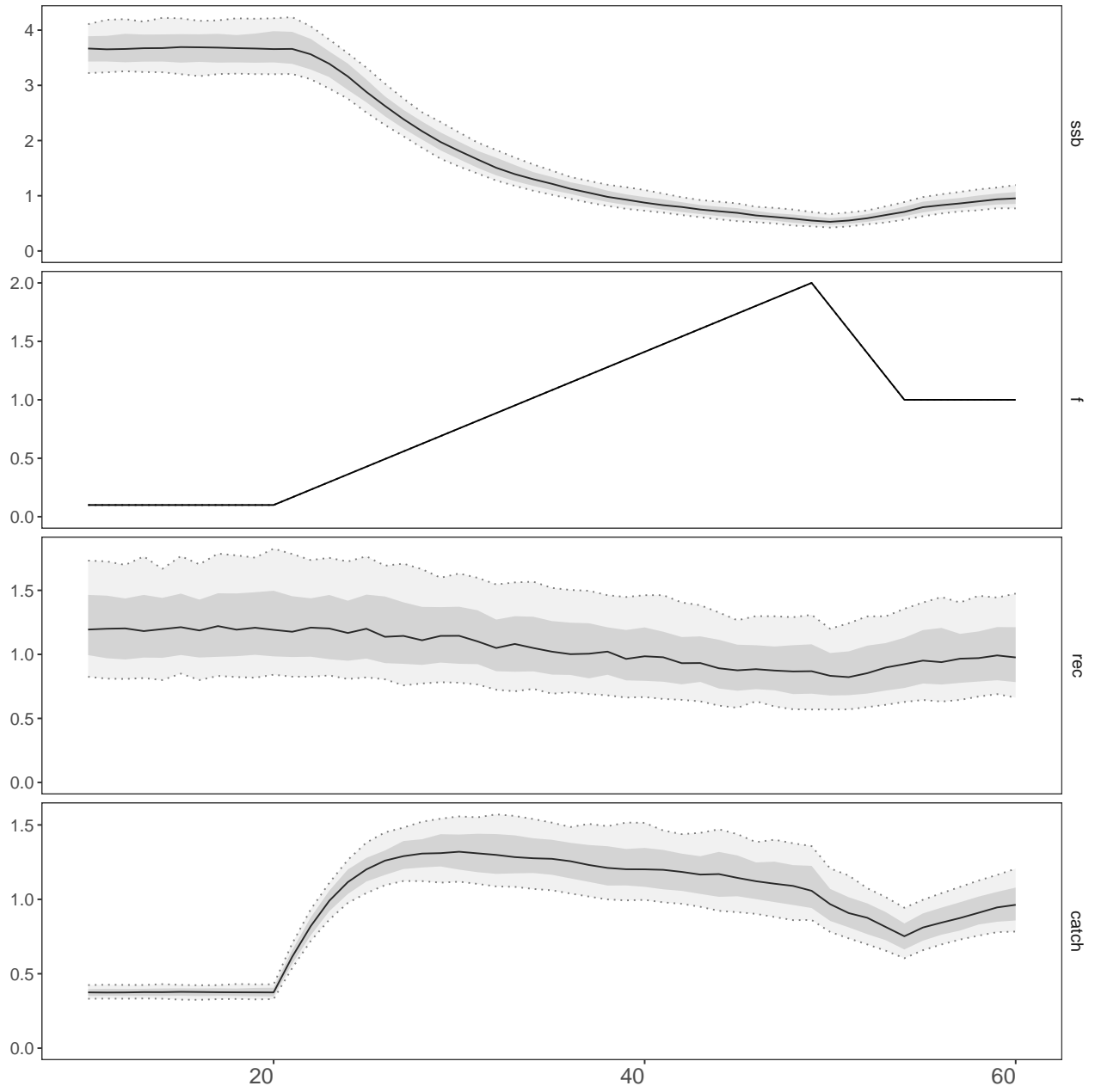
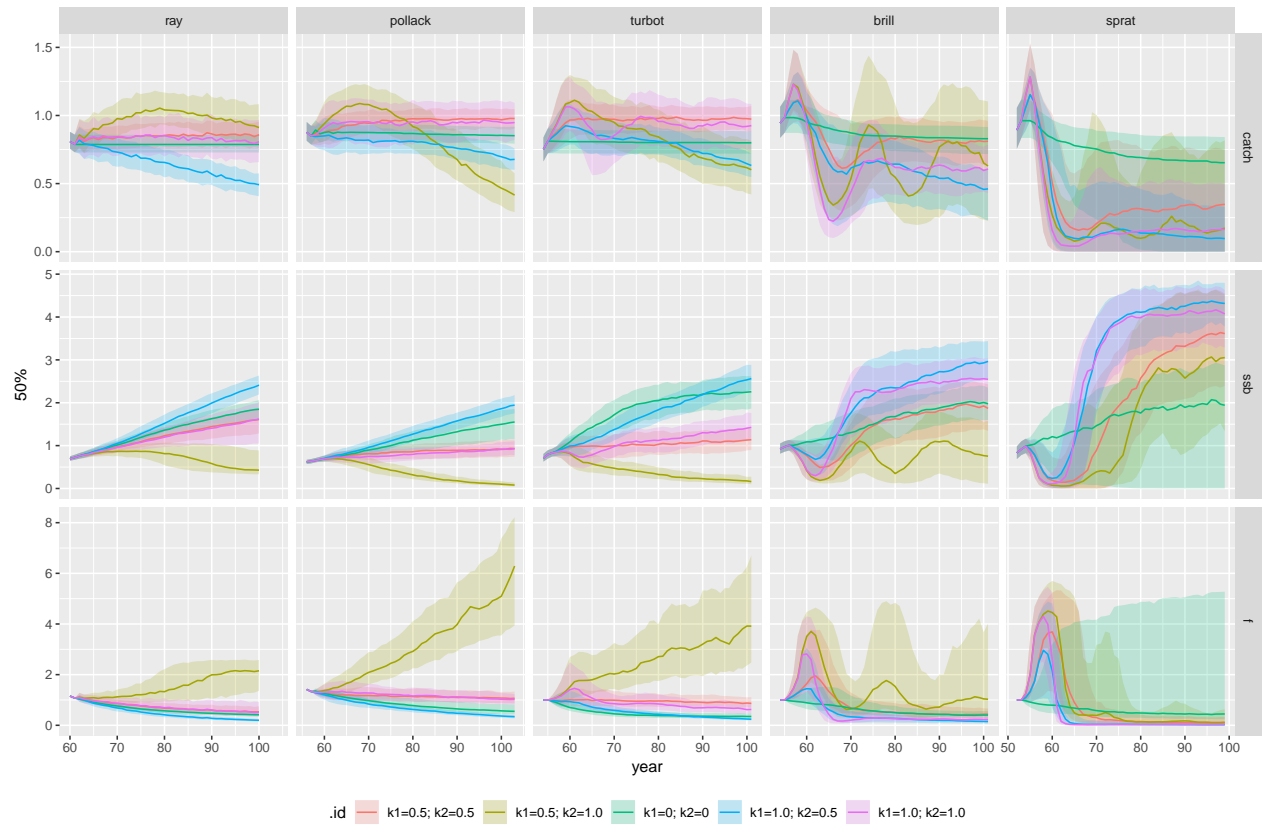
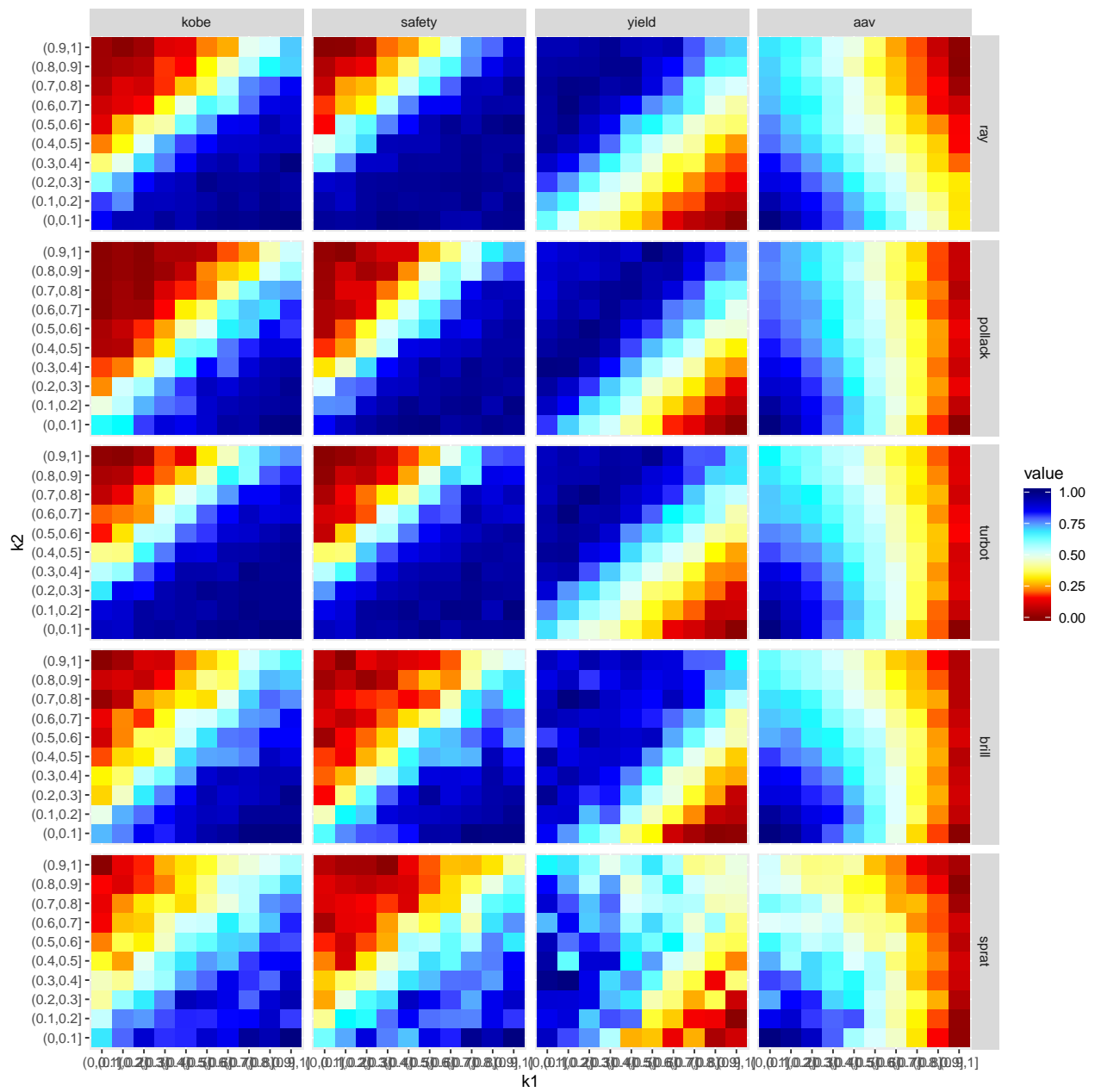


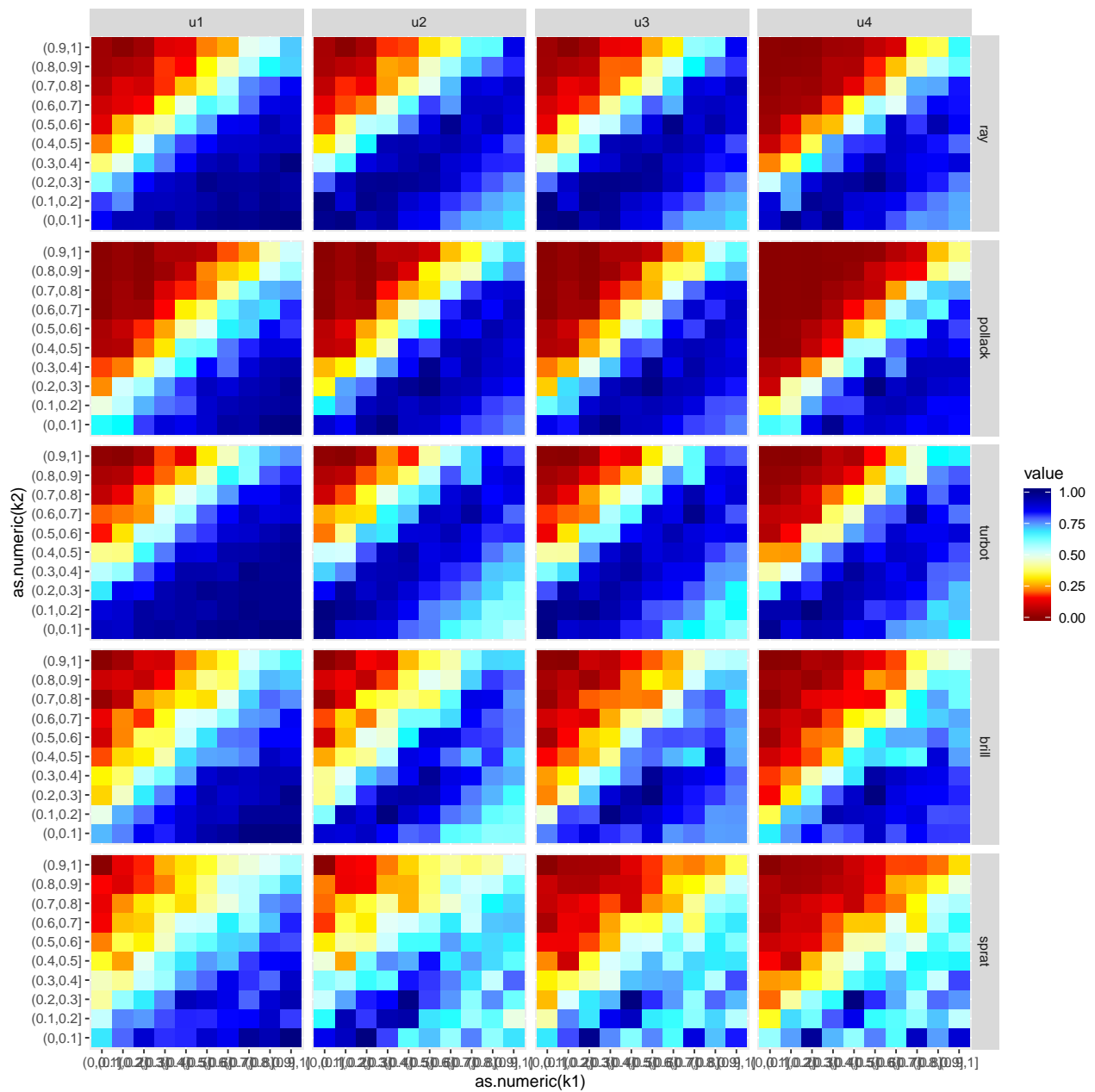
Figure 5 Time series relative to MSY benchmarks.

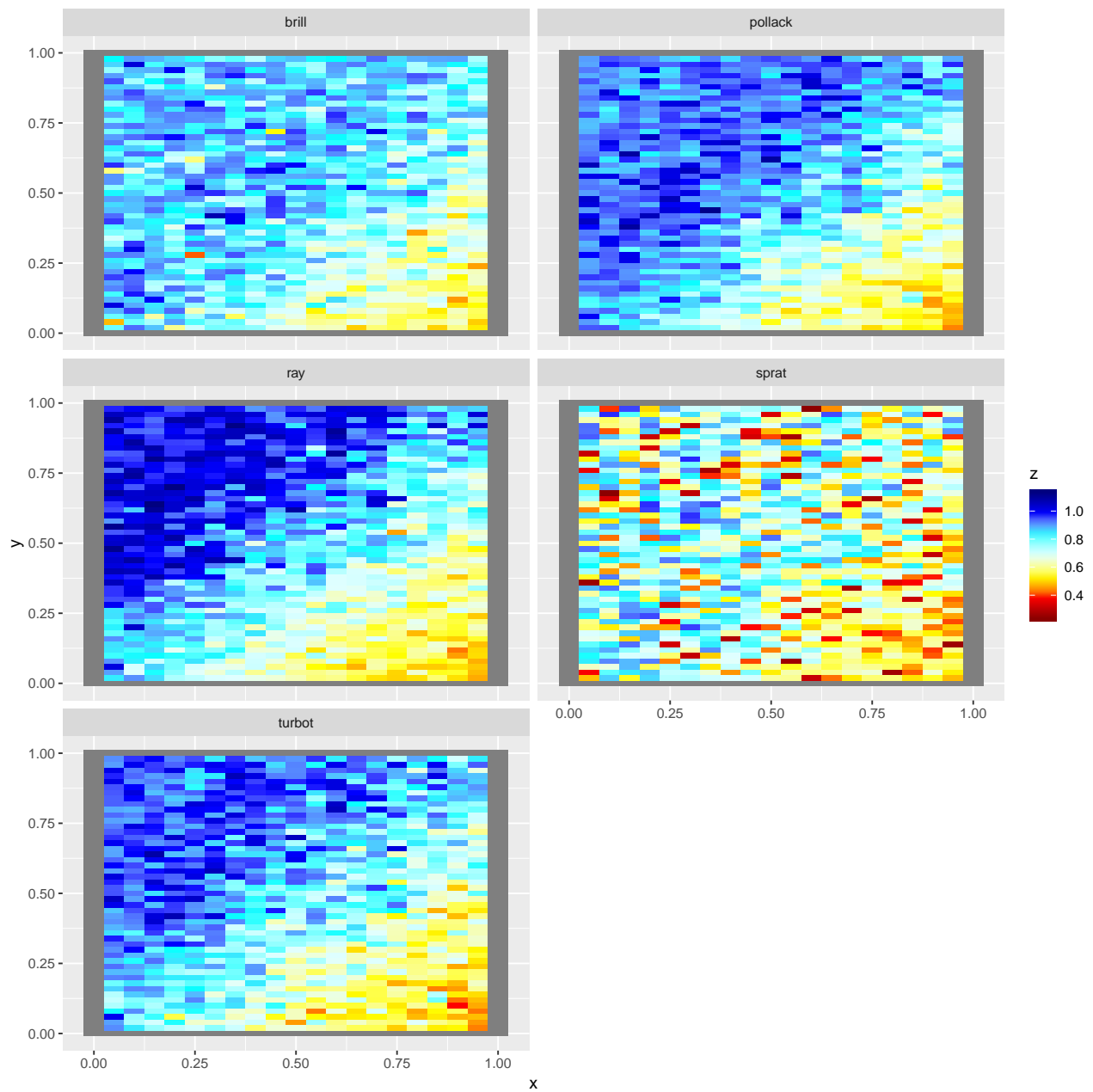
Results











Software Versions

- R version 3.4.4 (2018-03-15)
- FLCore: 2.6.9.9009
- FLBRP: 2.5.3.9001
- FLasher: 0.5.0.9001
- FLife: 3.2.1.9001
- ggplotFL: 2.6.4.9002
- **Compiled:** Thu Nov 15 10:21:02 2018

Author information

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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

Session Info

R version 3.4.4 (2018-03-15)
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
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other attached packages:

[1]	akima_0.6-2	bindrcpp_0.2.2	FLife_3.2.1.9001
[4]	ggplotFL_2.6.4.9002	FLasher_0.5.0.9001	FLFishery_0.1.5
[7]	FLBRP_2.5.3.9001	FLCore_2.6.9.9009	lattice_0.20-35
[10]	GGally_1.4.0	reshape_0.8.7	dplyr_0.7.6
[13]	plyr_1.8.4	ggplot2_3.0.0	knitr_1.20

loaded via a namespace (and not attached):

[1]	Rcpp_0.12.19	pillar_1.1.0	compiler_3.4.4
[4]	RColorBrewer_1.1-2	bindr_0.1.1	tools_3.4.4
[7]	digest_0.6.15	evaluate_0.10.1	tibble_1.4.2
[10]	gtable_0.2.0	pkgconfig_2.0.1	rlang_0.2.2
[13]	Matrix_1.2-10	yaml_2.1.18	gridExtra_2.3
[16]	withr_2.1.2	stringr_1.3.1	stats4_3.4.4
[19]	rprojroot_1.3-2	grid_3.4.4	tidyselect_0.2.4
[22]	glue_1.2.0	R6_2.2.2	rmarkdown_1.9
[25]	sp_1.2-5	reshape2_1.4.3	purrr_0.2.5
[28]	magrittr_1.5	codetools_0.2-15	backports_1.1.2
[31]	scales_1.0.0	htmltools_0.3.6	MASS_7.3-51
[34]	assertthat_0.2.0	colorspace_1.3-2	labeling_0.3
[37]	stringi_1.2.3	lazyeval_0.2.1	munsell_0.5.0