Updates to Catch Allocation Calculations

TAC05, 12 MARCH 2019

Requested Work

1) boxplots of results

2) G16 proposal re-calculated with the EU treated as a coastal state

3) Reference period changed to 2012-2016 for catches

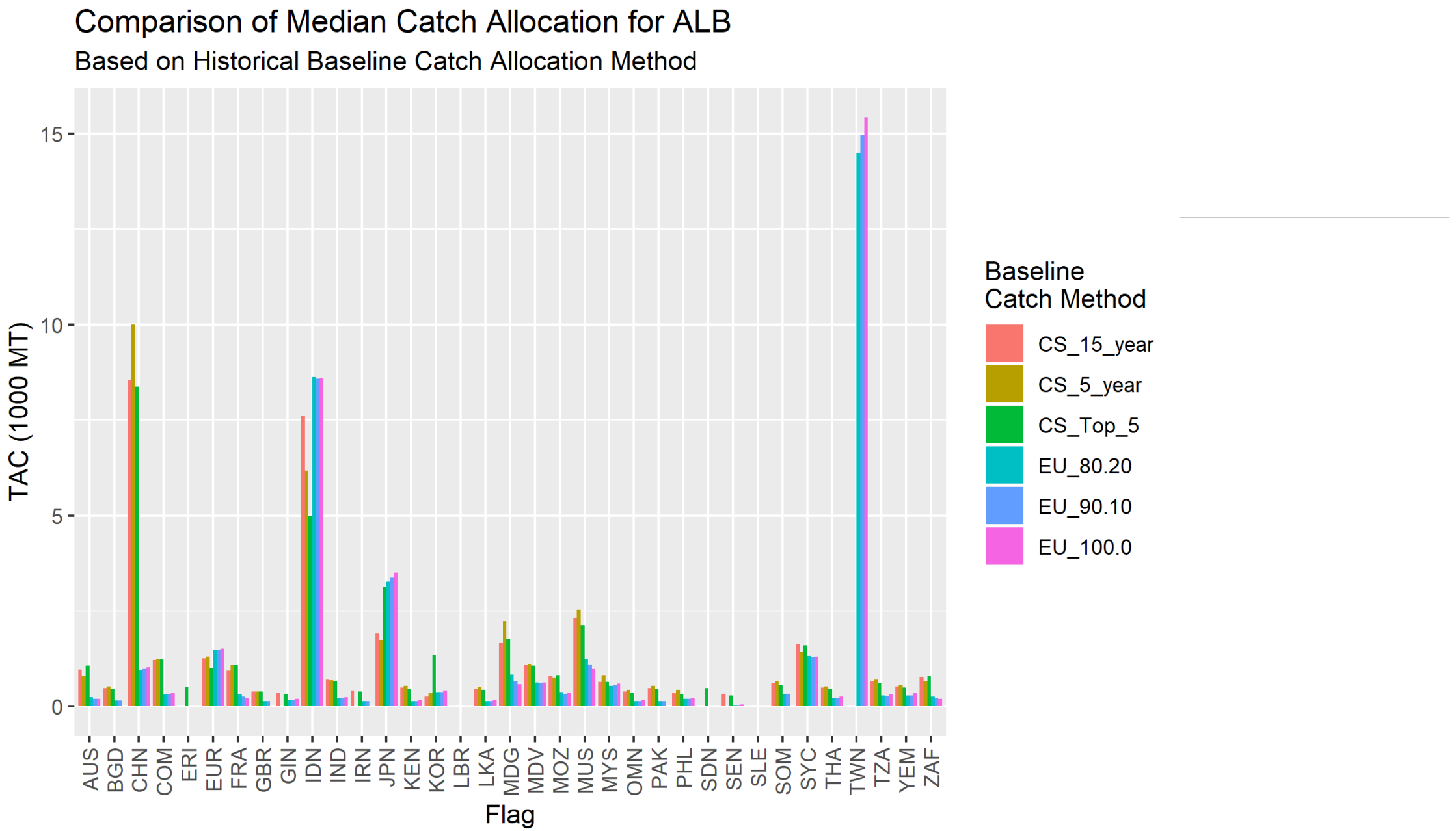
Albacore

Comparison of the TAC allocation by historical allocation method for albacore (ALB) tuna.

Values are in 1000 MT, assuming a global total allowable catch of 38.8 thousand MT.

Note that the simulations are summarized by the median allocation proportion

		Coastal States Proposal			EU Proposal		
SPECIES_CODE	Flag	15 year	5 year	Top 5	80%/20%	90%/10%	100%/ 0%
ALB	AUS	0.959	0.806	1.073	0.242	0.204	0.195
ALB	BGD	0.483	0.530	0.445	0.160	0.159	0.000
ALB	CHN	8.552	10.001	8.377	0.954	0.976	1.028
ALB	COM	1.213	1.246	1.233	0.320	0.313	0.358
ALB	ERI	0.000	0.000	0.515	0.000	0.000	0.000
ALB	EUR	1.260	1.299	1.008	1.475	1.482	1.519
ALB	FRA	0.931	1.082	1.081	0.319	0.254	0.217
ALB	GBR	0.386	0.385	0.385	0.144	0.139	0.000
ALB	GIN	0.359	0.000	0.322	0.170	0.170	0.203
ALB	IDN	7.608	6.174	4.994	8.623	8.584	8.590
ALB	IND	0.704	0.686	0.656	0.216	0.214	0.239
ALB	IRN	0.414	0.000	0.383	0.134	0.134	0.000
ALB	JPN	1.910	1.733	3.135	3.272	3.368	3.501
ALB	KEN	0.490	0.532	0.460	0.136	0.135	0.163
ALB	KOR	0.254	0.339	1.333	0.374	0.381	0.415
ALB	LBR	0.000	0.000	0.000	0.000	0.000	0.000
ALB	LKA	0.471	0.502	0.436	0.144	0.142	0.167
ALB	MDG	1.660	2.242	1.770	0.833	0.651	0.585
ALB	MDV	1.080	1.118	1.069	0.620	0.618	0.631
ALB	MOZ	0.798	0.755	0.819	0.369	0.333	0.363
ALB	MUS	2.319	2.525	2.130	1.253	1.099	0.974
ALB	MYS	0.639	0.824	0.636	0.535	0.552	0.595
ALB	OMN	0.385	0.428	0.364	0.145	0.146	0.175
ALB	PAK	0.485	0.534	0.451	0.135	0.134	0.000
ALB	PHL	0.339	0.439	0.332	0.205	0.205	0.234
ALB	SDN	0.000	0.000	0.483	0.000	0.000	0.000
ALB	SEN	0.335	0.000	0.290	0.034	0.034	0.044
ALB	SLE	0.000	0.000	0.000	0.000	0.000	0.000
ALB	SOM	0.607	0.664	0.569	0.334	0.332	0.000
ALB	SYC	1.637	1.424	1.597	1.324	1.297	1.311
ALB	THA	0.491	0.525	0.467	0.229	0.231	0.260
ALB	TWN	NA	NA	NA	14.505	14.963	15.423
ALB	TZA	0.656	0.696	0.608	0.284	0.277	0.318
ALB	YEM	0.519	0.571	0.498	0.283	0.283	0.347
ALB	ZAF	0.778	0.674	0.800	0.254	0.210	0.194


Comparison of Median Catch Allocation for ALB
Based on Historical Baseline Catch Allocation Method
TAC (1000 MT)
15
10
5
0
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline
Catch Method
CS_15_year
CS_5_year
CS_Top_5
EU_80.20
EU_90.10
EU_100.0

Bigeye

Comparison of the ETAC allocation by historical allocation method for bigeye (BET) tuna.

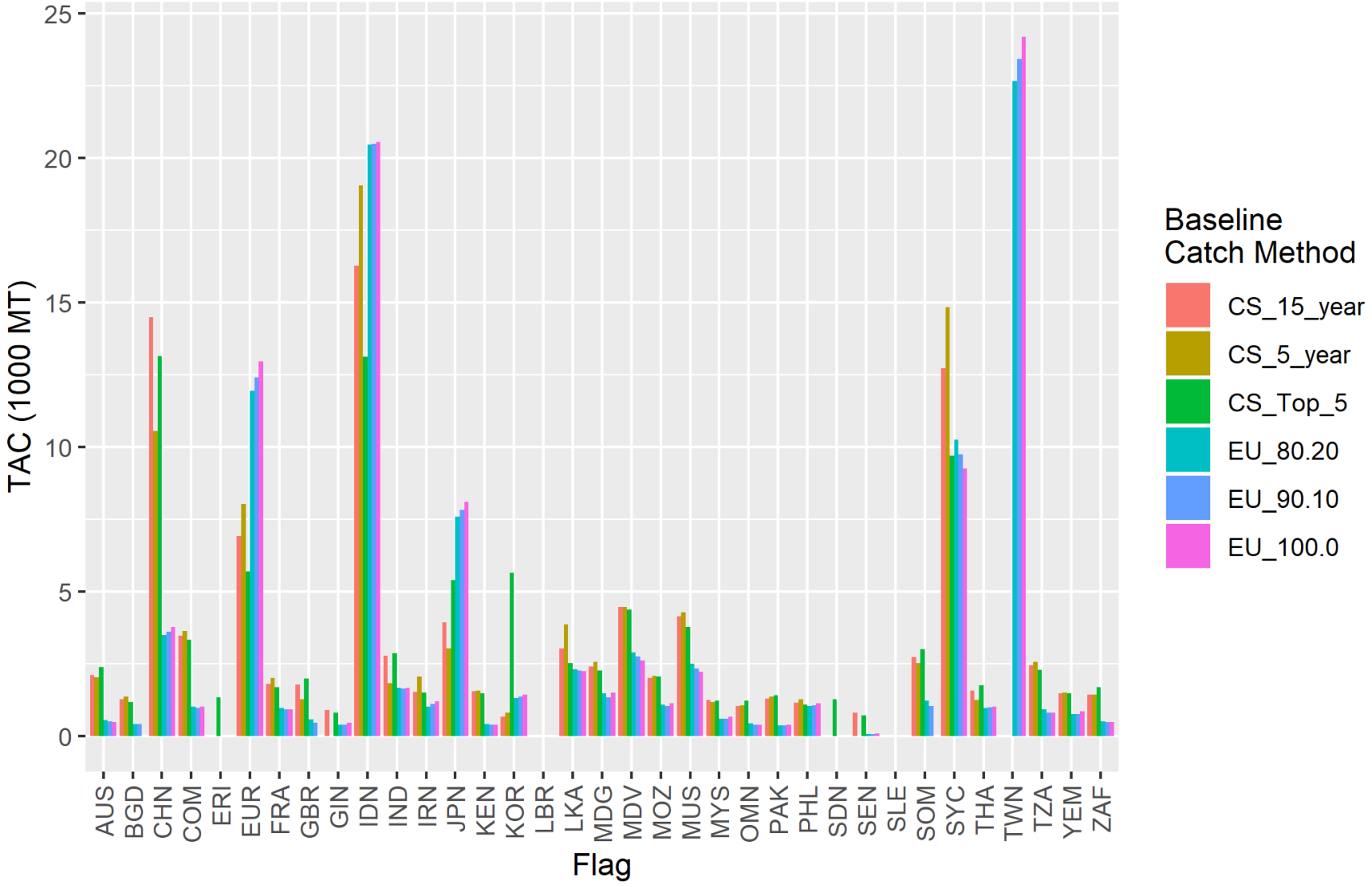
Values are in 1000 MT, assuming a global total allowable catch of 104 thousand MT.

Note that the simulations are summarized by the median allocation proportion

		Coastal States Proposal			EU Proposal		
SPECIES_CODE	Flag	15 year	5 year	Top 5	80%/20%	90%/10%	100%/ 0%
BET	AUS	2.112	2.057	2.389	0.571	0.518	0.506
BET	BGD	1.294	1.372	1.193	0.427	0.427	0.000
BET	CHN	14.504	10.566	13.166	3.506	3.615	3.774
BET	COM	3.483	3.647	3.332	1.024	0.982	1.028
BET	ERI	0.000	0.000	1.359	0.000	0.000	0.000
BET	EUR	6.924	8.041	5.702	11.946	12.425	12.972
BET	FRA	1.807	2.032	1.697	0.988	0.942	0.941
BET	GBR	1.801	1.292	2.004	0.597	0.479	0.000
BET	GIN	0.907	0.000	0.828	0.413	0.413	0.464
BET	IDN	16.276	19.048	13.137	20.469	20.487	20.572
BET	IND	2.790	1.829	2.869	1.676	1.658	1.682
BET	IRN	1.541	2.073	1.524	1.039	1.111	1.221
BET	JPN	3.954	3.051	5.411	7.600	7.838	8.115
BET	KEN	1.562	1.584	1.484	0.430	0.398	0.407
BET	KOR	0.692	0.817	5.664	1.331	1.371	1.448
BET	LBR	0.000	0.000	0.000	0.000	0.000	0.000
BET	LKA	3.041	3.872	2.539	2.329	2.270	2.246
BET	MDG	2.426	2.581	2.267	1.491	1.348	1.503
BET	MDV	4.486	4.472	4.395	2.906	2.756	2.631
BET	MOZ	2.013	2.095	2.062	1.108	1.053	1.153
BET	MUS	4.144	4.294	3.785	2.512	2.357	2.238
BET	MYS	1.262	1.190	1.230	0.612	0.621	0.672
BET	OMN	1.059	1.073	1.241	0.441	0.406	0.411
BET	PAK	1.303	1.376	1.413	0.383	0.372	0.403
BET	PHL	1.168	1.295	1.103	1.061	1.083	1.143
BET	SDN	0.000	0.000	1.278	0.000	0.000	0.000
BET	SEN	0.817	0.000	0.739	0.086	0.086	0.112
BET	SLE	0.000	0.000	0.000	0.000	0.000	0.000
BET	SOM	2.738	2.544	3.019	1.233	1.056	0.000
BET	SYC	12.742	14.852	9.709	10.271	9.757	9.259
BET	THA	1.573	1.257	1.765	0.987	0.994	1.040
BET	TWN	NA	NA	NA	22.675	23.431	24.190
BET	TZA	2.462	2.570	2.307	0.940	0.828	0.813
BET	YEM	1.485	1.525	1.493	0.785	0.771	0.873
BET	ZAF	1.439	1.445	1.703	0.522	0.493	0.505

Comparison of Median Catch Allocation for BET

Based on Historical Baseline Catch Allocation Method



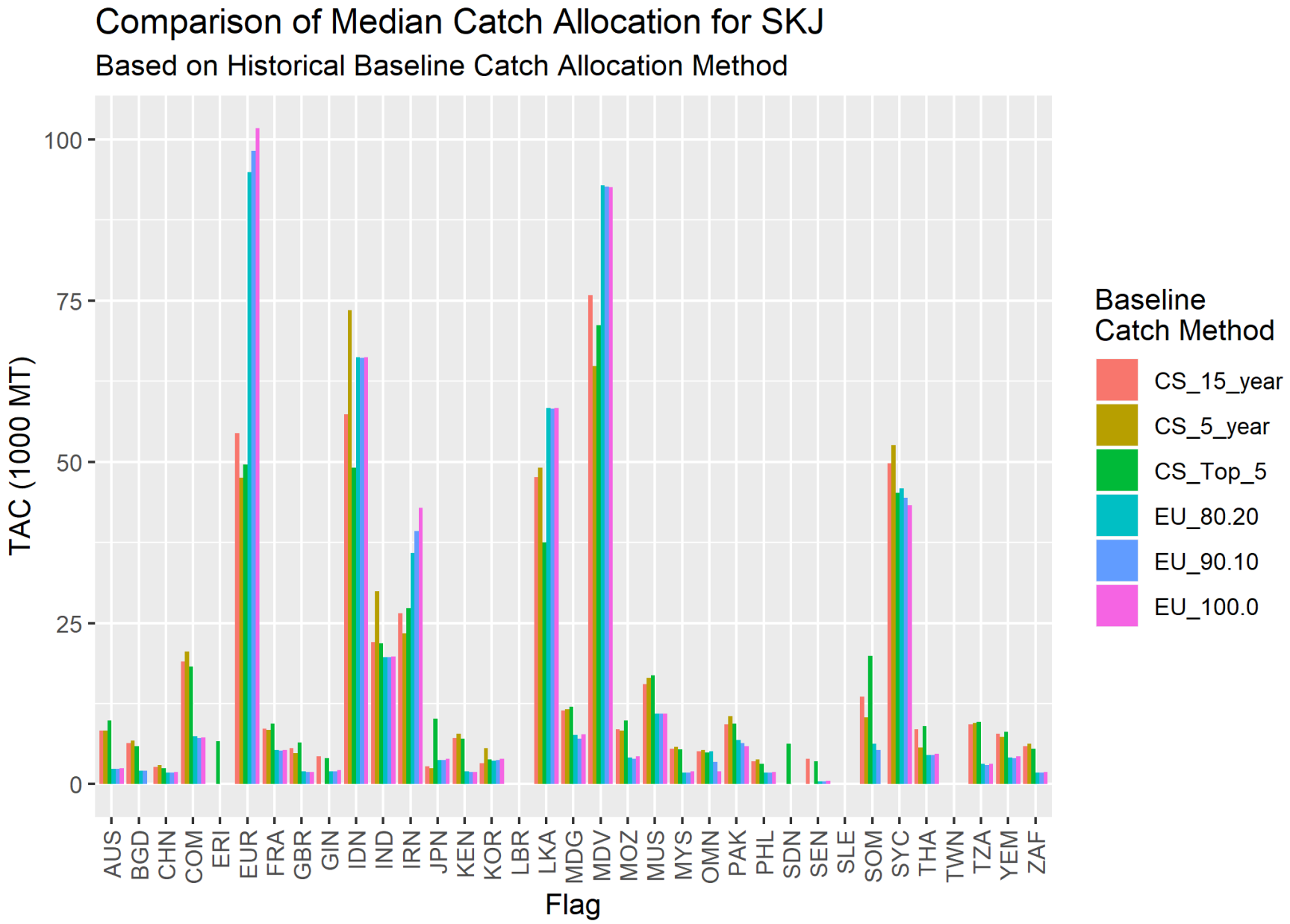
Skipjack

Comparison of the TAC allocation by historical allocation method for skipjack (SKJ) tuna.

Values are in 1000 MT, assuming a global total allowable catch of 510.1 thousand MT.

Note that the simulations are summarized by the median allocation proportion

		Coastal States Proposal			EU Proposal		
CIES_CODE	Flag	15 year	5 year	Top 5	80%/20%	90%/10%	100%/ 0%
SKJ	AUS	8.348	8.274	9.913	2.348	2.346	2.477
SKJ	BGD	6.343	6.729	5.847	2.095	2.095	0.000
SKJ	CHN	2.661	2.929	2.479	1.763	1.763	1.895
SKJ	COM	18.975	20.580	18.227	7.429	7.156	7.204
SKJ	ERI	0.000	0.000	6.668	0.000	0.000	0.000
SKJ	EUR	54.477	47.511	49.559	94.941	98.229	101.712
SKJ	FRA	8.617	8.451	9.423	5.321	5.244	5.286
SKJ	GBR	5.544	4.828	6.481	2.011	1.889	1.897
SKJ	GIN	4.374	0.000	3.994	1.966	1.966	2.140
SKJ	IDN	57.314	73.533	49.062	66.238	66.099	66.170
SKJ	IND	22.027	29.874	21.806	19.705	19.668	19.787
SKJ	IRN	26.495	23.418	27.272	35.833	39.307	42.853
SKJ	JPN	2.723	2.493	10.181	3.760	3.766	3.906
SKJ	KEN	7.156	7.828	7.062	2.002	1.906	1.938
SKJ	KOR	3.240	5.554	3.838	3.670	3.713	3.888
SKJ	LBR	0.000	0.000	0.000	0.000	0.000	0.000
SKJ	LKA	47.587	49.047	37.477	58.339	58.215	58.301
SKJ	MDG	11.412	11.664	12.048	7.677	7.064	7.736
SKJ	MDV	75.813	64.869	71.139	92.892	92.681	92.590
SKJ	MOZ	8.500	8.279	9.906	4.158	3.959	4.360
SKJ	MUS	15.495	16.536	16.919	10.966	10.920	10.974
SKJ	MYS	5.487	5.754	5.375	1.832	1.833	1.965
SKJ	OMN	5.072	5.258	4.955	5.124	3.487	2.018
SKJ	PAK	9.322	10.568	9.401	6.859	6.325	5.911
SKJ	PHL	3.505	3.872	3.200	1.763	1.763	1.895
SKJ	SDN	0.000	0.000	6.269	0.000	0.000	0.000
SKJ	SEN	3.943	0.000	3.581	0.416	0.416	0.544
SKJ	SLE	0.000	0.000	0.000	0.000	0.000	0.000
SKJ	SOM	13.592	10.391	19.931	6.228	5.264	0.000
SKJ	SYC	49.810	52.567	45.204	45.866	44.433	43.291
SKJ	THA	8.521	5.711	9.024	4.519	4.542	4.697
SKJ	TWN	NA	NA	NA	0.062	0.065	0.068
SKJ	TZA	9.259	9.444	9.659	3.205	2.951	3.145
SKJ	YEM	7.816	7.386	8.146	4.159	4.023	4.361
SKJ	ZAF	5.910	6.235	5.445	1.764	1.764	1.896


Comparison of Median Catch Allocation for SKJ
Based on Historical Baseline Catch Allocation Method
TAC (1000 MT)
100
75
50
25
0
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline
Catch Method
CS_15_year
CS_5_year
CS_Top_5
EU_80.20
EU_90.10
EU_100.0

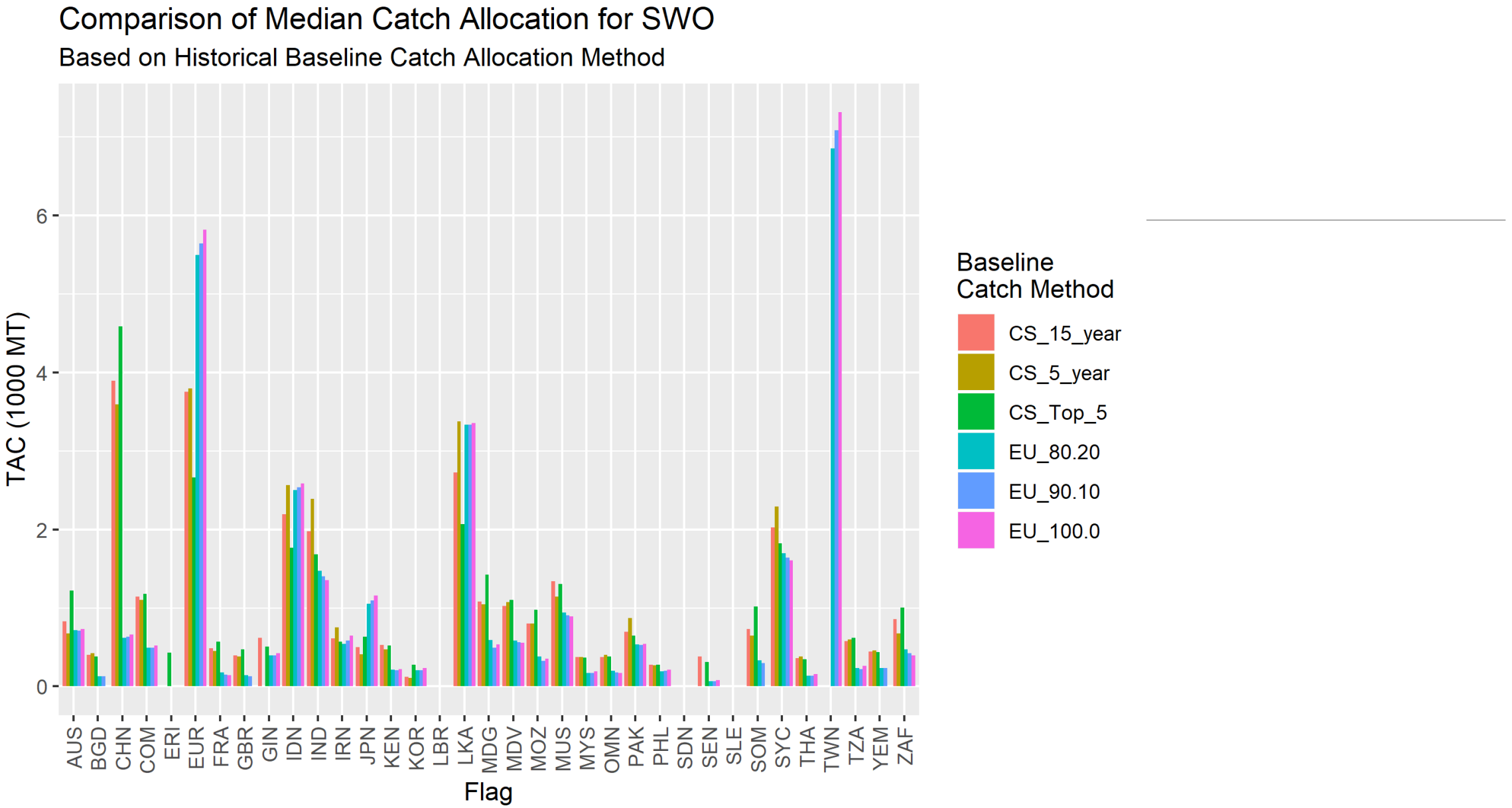
Swordfish

Comparison of the ETAC allocation by historical allocation method for swordfish (SWO).

Values are in 1000 MT, assuming a global total allowable catch of 31.59 thousand MT.

Note that the simulations are summarized by the median allocation proportion

		Coastal States Proposal			EU Proposal		
CIES_CODE	Flag	15 year	5 year	Top 5	80%/20%	90%/10%	100%/ 0%
SWO	AUS	0.830	0.677	1.223	0.718	0.713	0.729
SWO	BGD	0.399	0.421	0.383	0.132	0.131	0.000
SWO	CHN	3.896	3.594	4.585	0.617	0.635	0.663
SWO	COM	1.147	1.104	1.180	0.495	0.490	0.524
SWO	ERI	0.000	0.000	0.429	0.000	0.000	0.000
SWO	EUR	3.752	3.797	2.662	5.495	5.641	5.814
SWO	FRA	0.487	0.453	0.571	0.180	0.152	0.141
SWO	GBR	0.394	0.380	0.471	0.143	0.126	0.000
SWO	GIN	0.622	0.000	0.505	0.396	0.398	0.423
SWO	IDN	2.191	2.565	1.767	2.501	2.532	2.583
SWO	IND	1.977	2.389	1.682	1.470	1.405	1.355
SWO	IRN	0.614	0.755	0.569	0.539	0.587	0.648
SWO	JPN	0.497	0.410	0.635	1.053	1.095	1.159
SWO	KEN	0.525	0.472	0.519	0.214	0.209	0.221
SWO	KOR	0.120	0.109	0.274	0.204	0.209	0.232
SWO	LBR	0.000	0.000	0.000	0.000	0.000	0.000
SWO	LKA	2.728	3.372	2.064	3.332	3.332	3.356
SWO	MDG	1.078	1.043	1.423	0.590	0.492	0.536
SWO	MDV	1.028	1.077	1.101	0.587	0.565	0.556
SWO	MOZ	0.800	0.802	0.976	0.379	0.328	0.354
SWO	MUS	1.337	1.141	1.307	0.943	0.904	0.892
SWO	MYS	0.373	0.374	0.367	0.171	0.174	0.194
SWO	OMN	0.376	0.399	0.379	0.201	0.176	0.169
SWO	PAK	0.695	0.872	0.649	0.534	0.526	0.538
SWO	PHL	0.279	0.266	0.274	0.194	0.196	0.216
SWO	SDN	0.000	0.000	0.000	0.000	0.000	0.000
SWO	SEN	0.378	0.000	0.309	0.066	0.067	0.081
SWO	SLE	0.000	0.000	0.000	0.000	0.000	0.000
SWO	SOM	0.733	0.650	1.016	0.331	0.300	0.000
SWO	SYC	2.023	2.292	1.819	1.693	1.641	1.604
SWO	THA	0.358	0.382	0.347	0.137	0.137	0.155
SWO	TWN	NA	NA	NA	6.853	7.082	7.312
SWO	TZA	0.579	0.595	0.616	0.232	0.217	0.259
SWO	YEM	0.447	0.461	0.434	0.237	0.234	0.000
SWO	ZAF	0.856	0.675	1.001	0.469	0.425	0.398


Comparison of Median Catch Allocation for SWO
Based on Historical Baseline Catch Allocation Method
TAC (1000 MT)
0
2
4
6
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline
Catch Method
CS_15_year
CS_5_year
CS_Top_5
EU_80.20
EU_90.10
EU_100.0

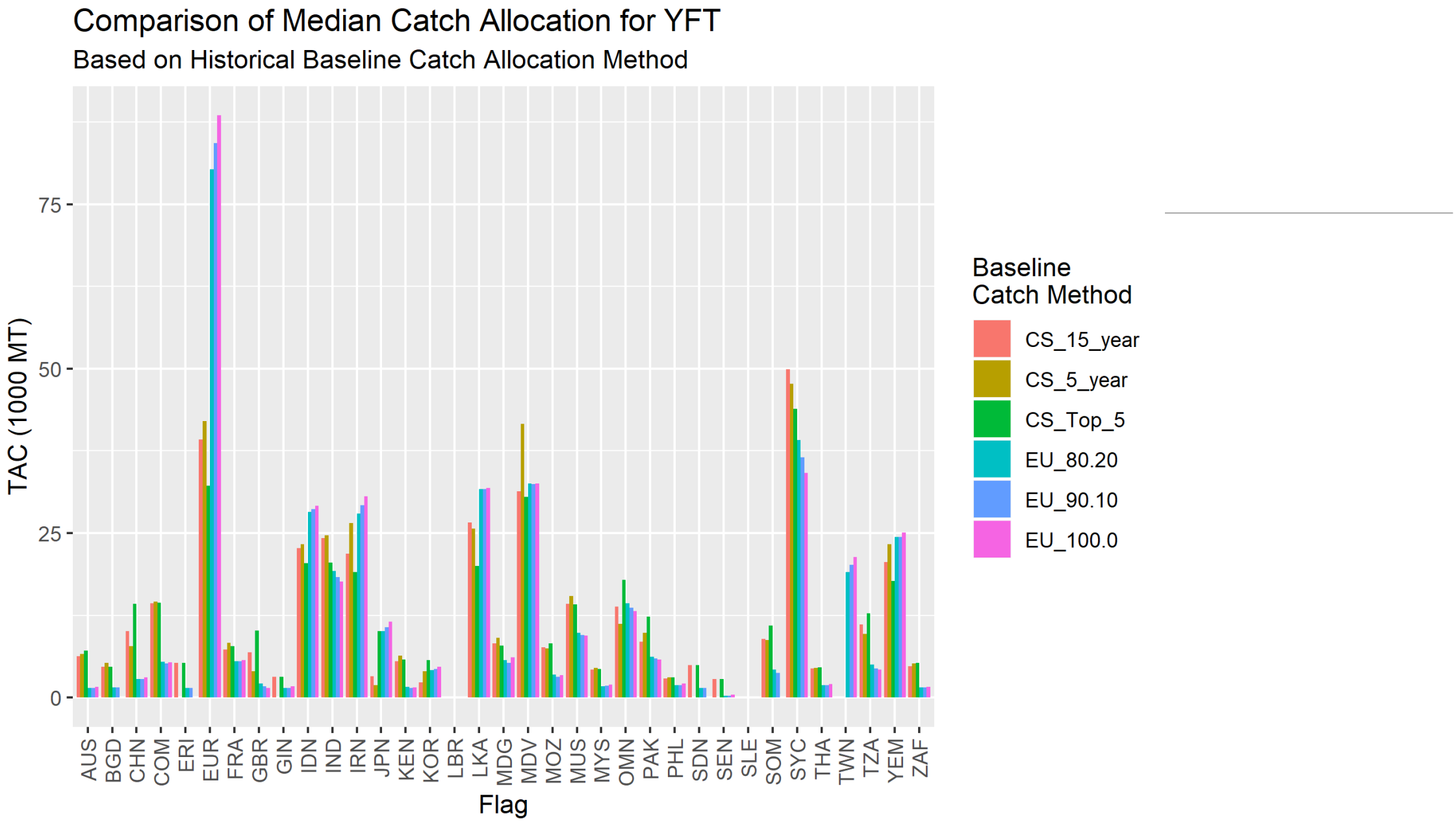
Yellowfin

Comparison of the TAC allocation by historical allocation method for yellowfin (YFT) tuna.

Values are in 1000 MT, assuming a global total allowable catch of 403 thousand MT.

Note that the simulations are summarized by the median allocation proportion

		Coastal States Proposal			EU Proposal		
CIES_CODE	Flag	15 year	5 year	Top 5	80%/20%	90%/10%	100%/ 0%
YFT	AUS	6.315	6.630	7.175	1.463	1.439	1.611
YFT	BGD	4.670	5.328	4.692	1.575	1.568	0.000
YFT	CHN	10.141	7.815	14.279	2.800	2.858	3.112
YFT	COM	14.308	14.570	14.455	5.418	5.204	5.395
YFT	ERI	5.266	0.000	5.266	1.512	1.512	0.000
YFT	EUR	39.209	41.993	32.200	80.307	84.239	88.485
YFT	FRA	7.348	8.298	7.815	5.567	5.551	5.710
YFT	GBR	6.883	4.038	10.197	2.193	1.754	1.506
YFT	GIN	3.165	0.000	3.163	1.463	1.463	1.698
YFT	IDN	22.753	23.328	20.471	28.233	28.648	29.194
YFT	IND	24.240	24.697	20.517	19.223	18.327	17.675
YFT	IRN	21.858	26.540	19.104	27.994	29.208	30.574
YFT	JPN	3.219	1.917	10.115	10.075	10.741	11.556
YFT	KEN	5.580	6.351	5.810	1.616	1.506	1.591
YFT	KOR	2.302	3.985	5.742	4.193	4.341	4.665
YFT	LBR	0.000	0.000	0.000	0.000	0.000	0.000
YFT	LKA	26.621	25.670	20.035	31.686	31.686	31.909
YFT	MDG	8.259	9.066	7.937	5.692	5.318	6.129
YFT	MDV	31.383	41.580	30.542	32.524	32.437	32.576
YFT	MOZ	7.650	7.529	8.264	3.477	3.141	3.452
YFT	MUS	14.281	15.476	14.210	9.842	9.532	9.425
YFT	MYS	4.251	4.560	4.346	1.768	1.783	1.993
YFT	OMN	13.864	11.175	17.874	14.372	13.688	13.186
YFT	PAK	8.511	9.865	12.318	6.221	5.930	5.815
YFT	PHL	2.934	3.120	3.056	1.907	1.927	2.142
YFT	SDN	4.951	0.000	4.951	1.469	1.469	0.000
YFT	SEN	2.832	0.000	2.831	0.318	0.318	0.430
YFT	SLE	0.000	0.000	0.000	0.000	0.000	0.000
YFT	SOM	8.886	8.785	10.967	4.288	3.771	0.000
YFT	SYC	49.911	47.716	43.871	39.168	36.531	34.194
YFT	THA	4.406	4.561	4.629	1.904	1.907	2.105
YFT	TWN	NA	NA	NA	19.110	20.227	21.345
YFT	TZA	11.160	9.701	12.855	5.022	4.431	4.302
YFT	YEM	20.645	23.296	17.689	24.445	24.410	25.079
YFT	ZAF	4.748	5.190	5.311	1.578	1.522	1.661


Comparison of Median Catch Allocation for YFT
Based on Historical Baseline Catch Allocation Method
TAC (1000 MT)
0
25
50
75
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline Catch Method
CS_15_year
CS_5_year
CS_Top_5
EU_80.20
EU_90.10
EU_100.0

Comparison of TAC values to the average of the 2012-2016 catch

Note that TAC values are based on example (or proxy) TAC (the MSY related quantities presented earlier).

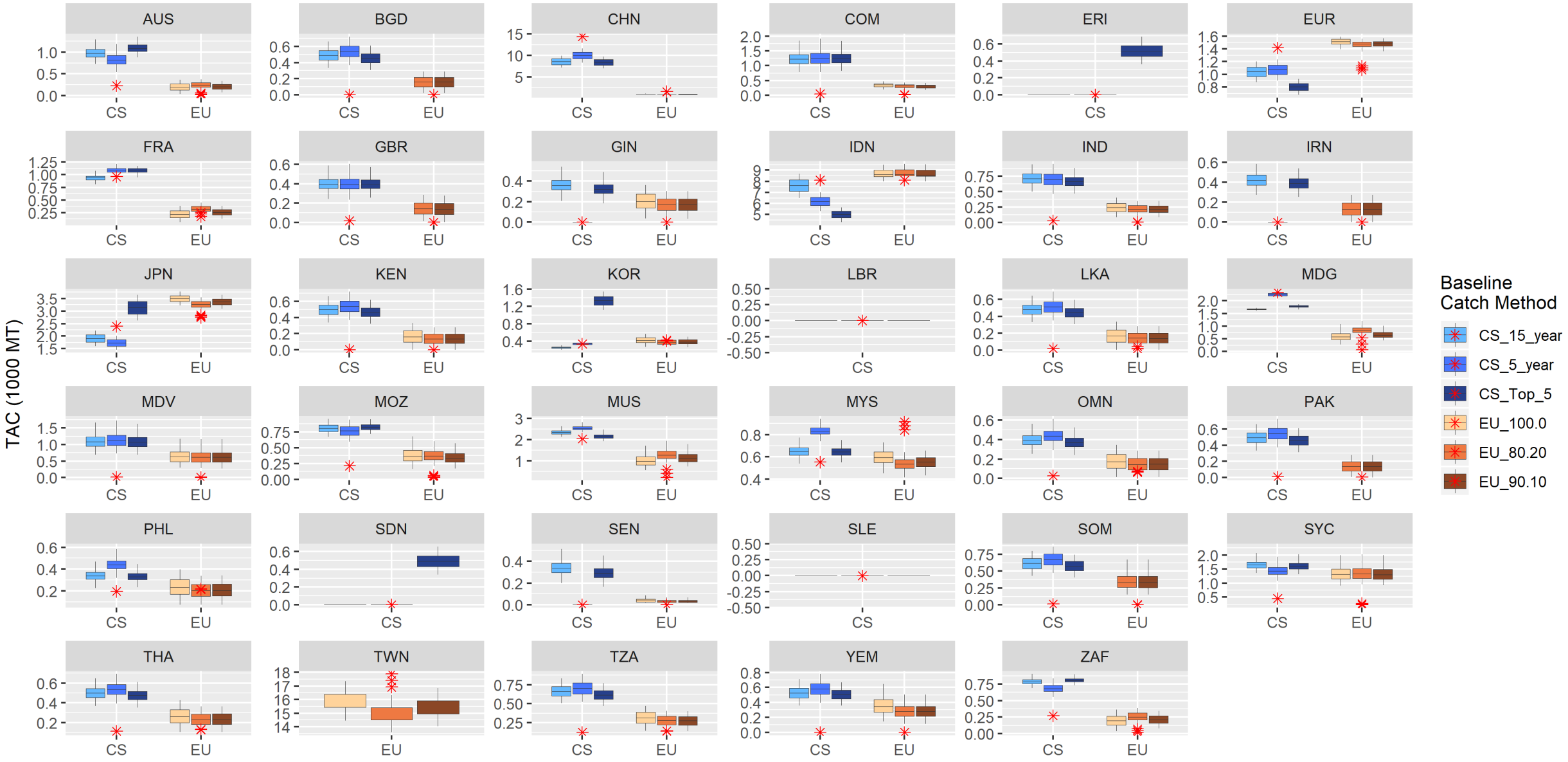
TAC values are compared against the average of the 2012-2016 reported catch (2017 provided for reference).

Flag and Species results depend on whether the 2012-2016 catch was a ‘larger’ or ‘smaller’.

	1000 MT		
SPECIES_CODE	Mean 2012-2016	2017 Catch	ETAC
ALB	**34.3**	38.7	**38.8**
BET	**100.8**	90.9	**104.0**
SKJ	**409.8**	526.7	**510.1**
SWO	**28.9**	34.8	**31.6**
YFT	**396.7**	410.4	**403.0**

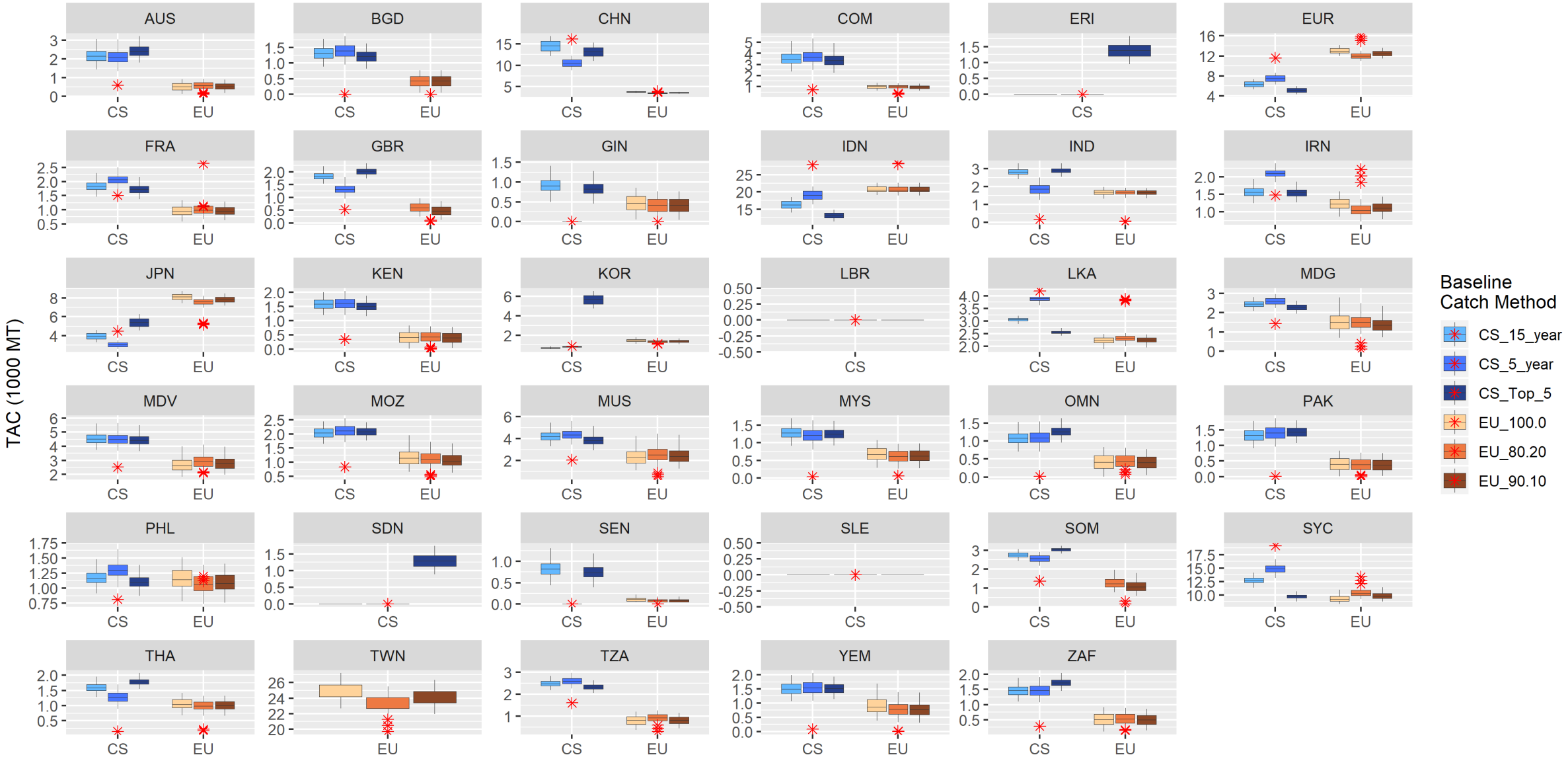
Comparison of Catch Allocation for ALB

Based on Historical Baseline Catch Allocation Method, and Proposal



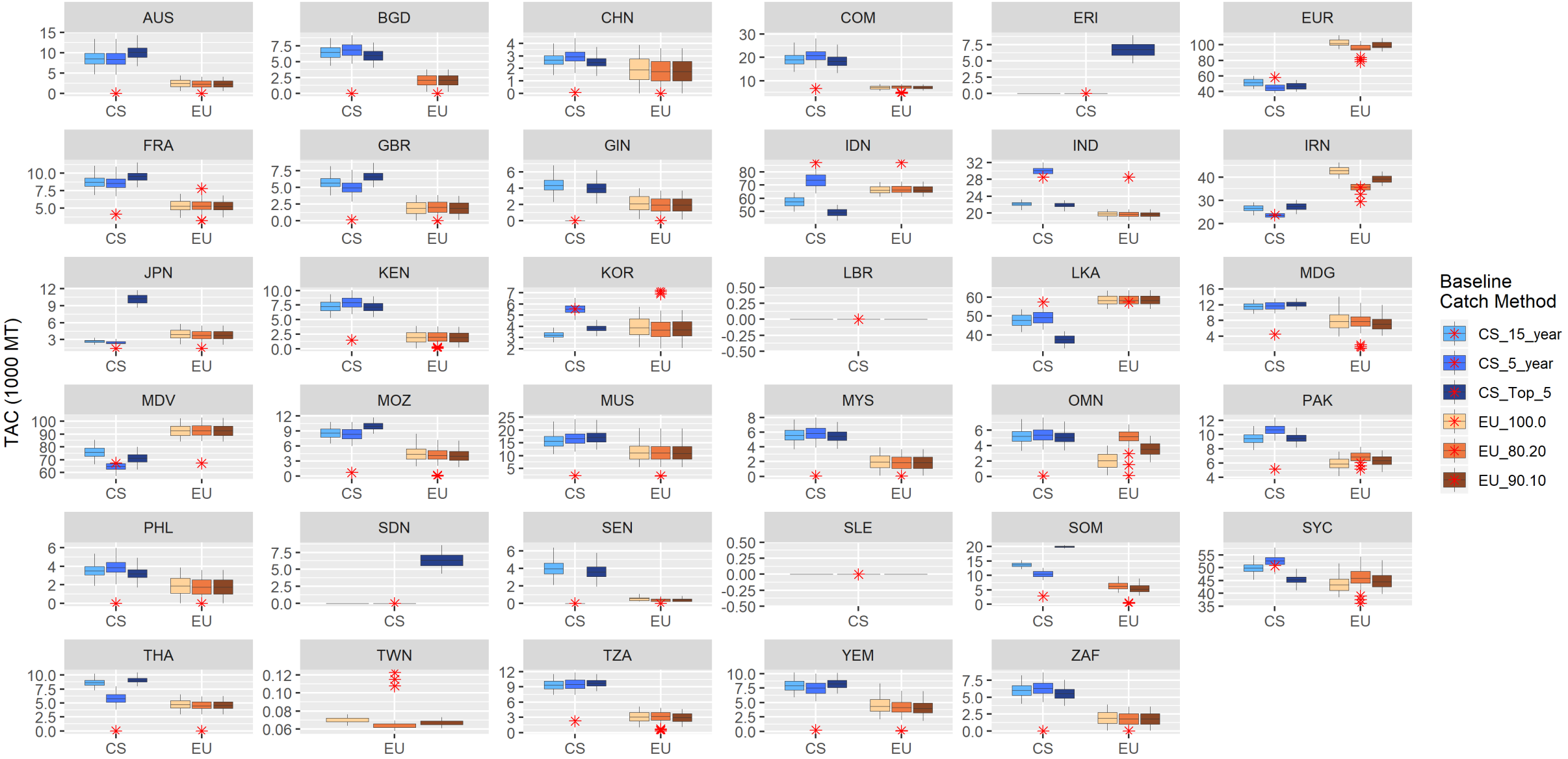
Comparison of Catch Allocation for BET

Based on Historical Baseline Catch Allocation Method, and Proposal



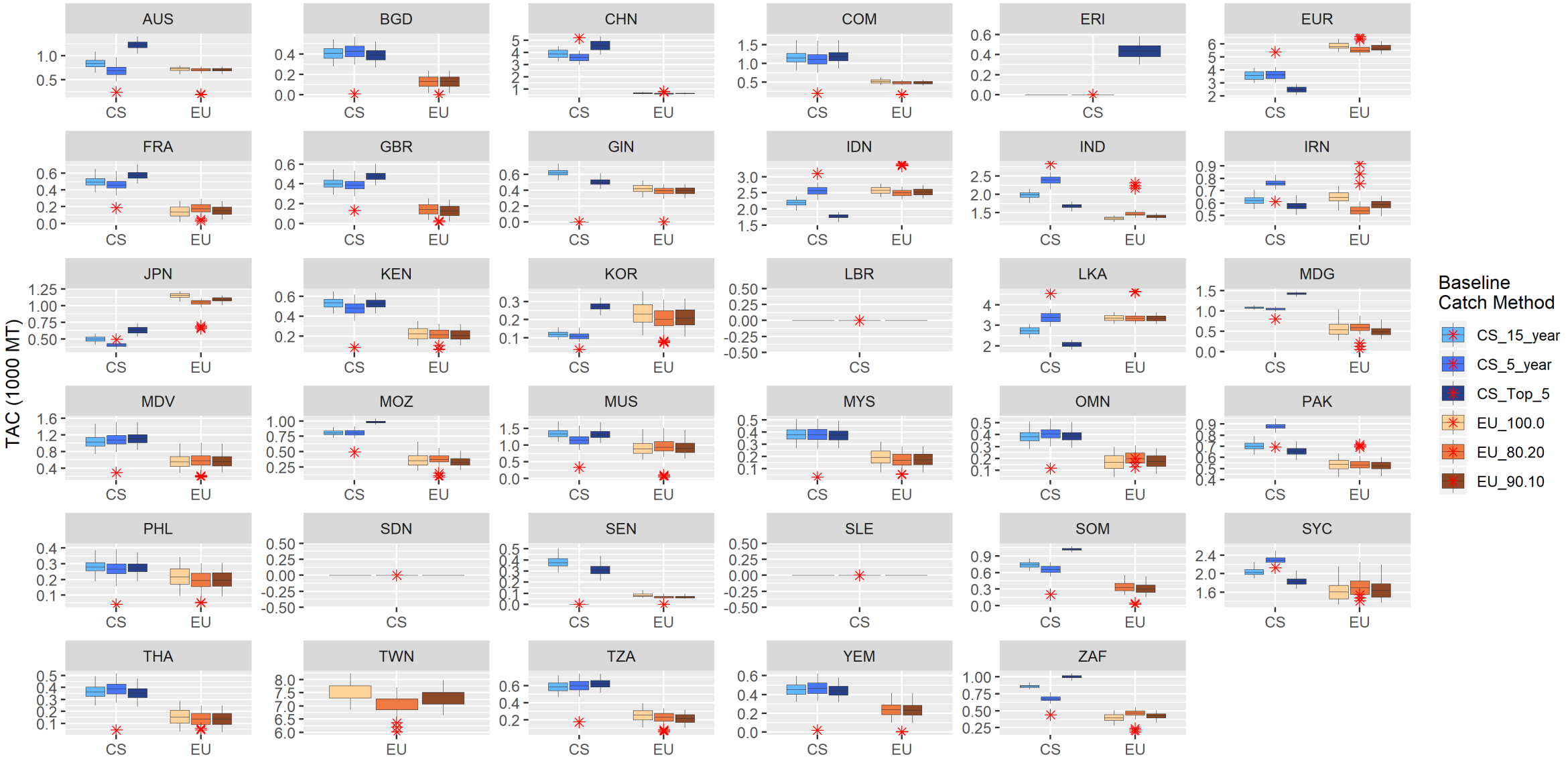
Comparison of Catch Allocation for SKJ

Based on Historical Baseline Catch Allocation Method, and Proposal



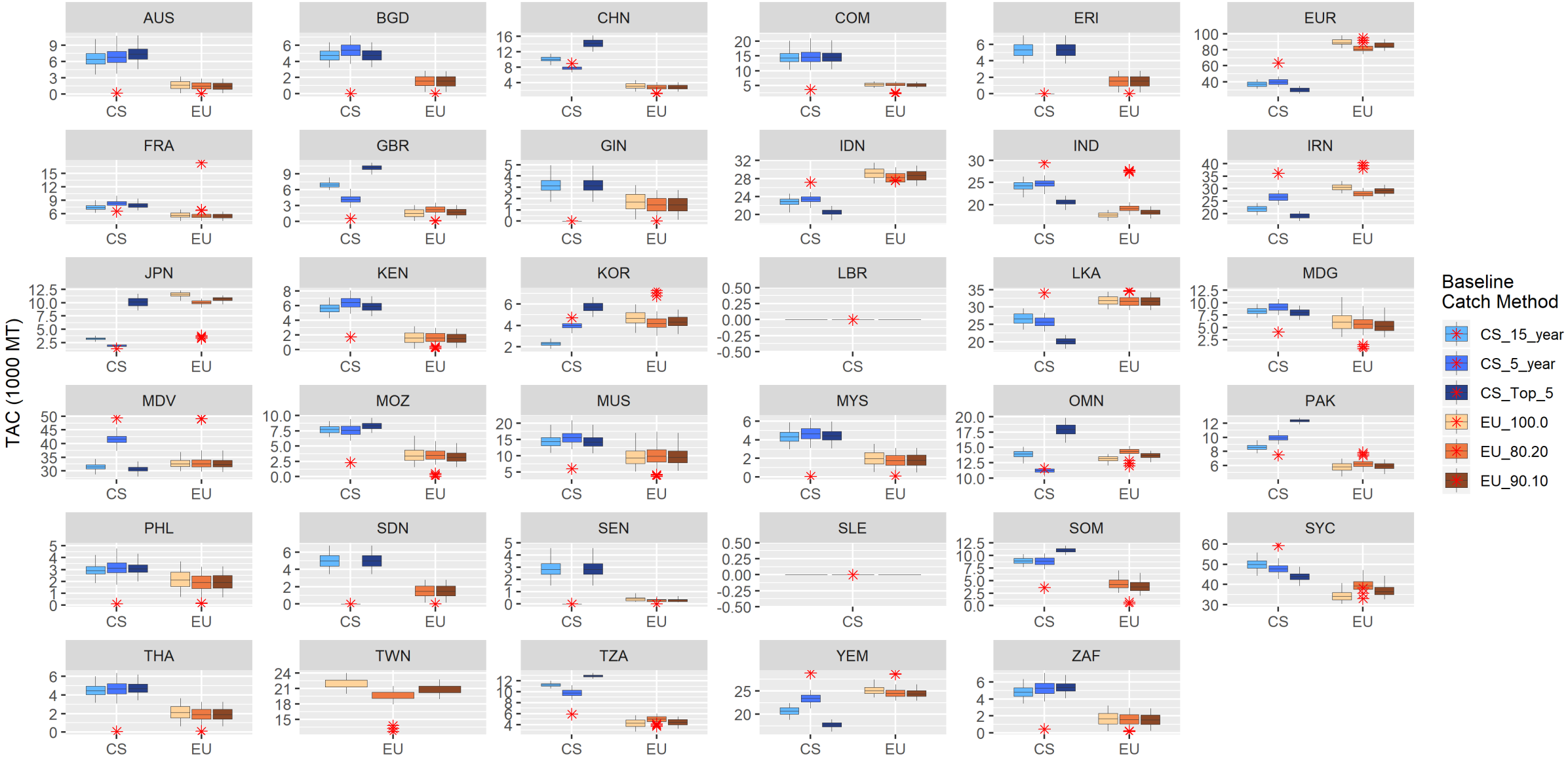
Comparison of Catch Allocation for SWO

Based on Historical Baseline Catch Allocation Method, and Proposal

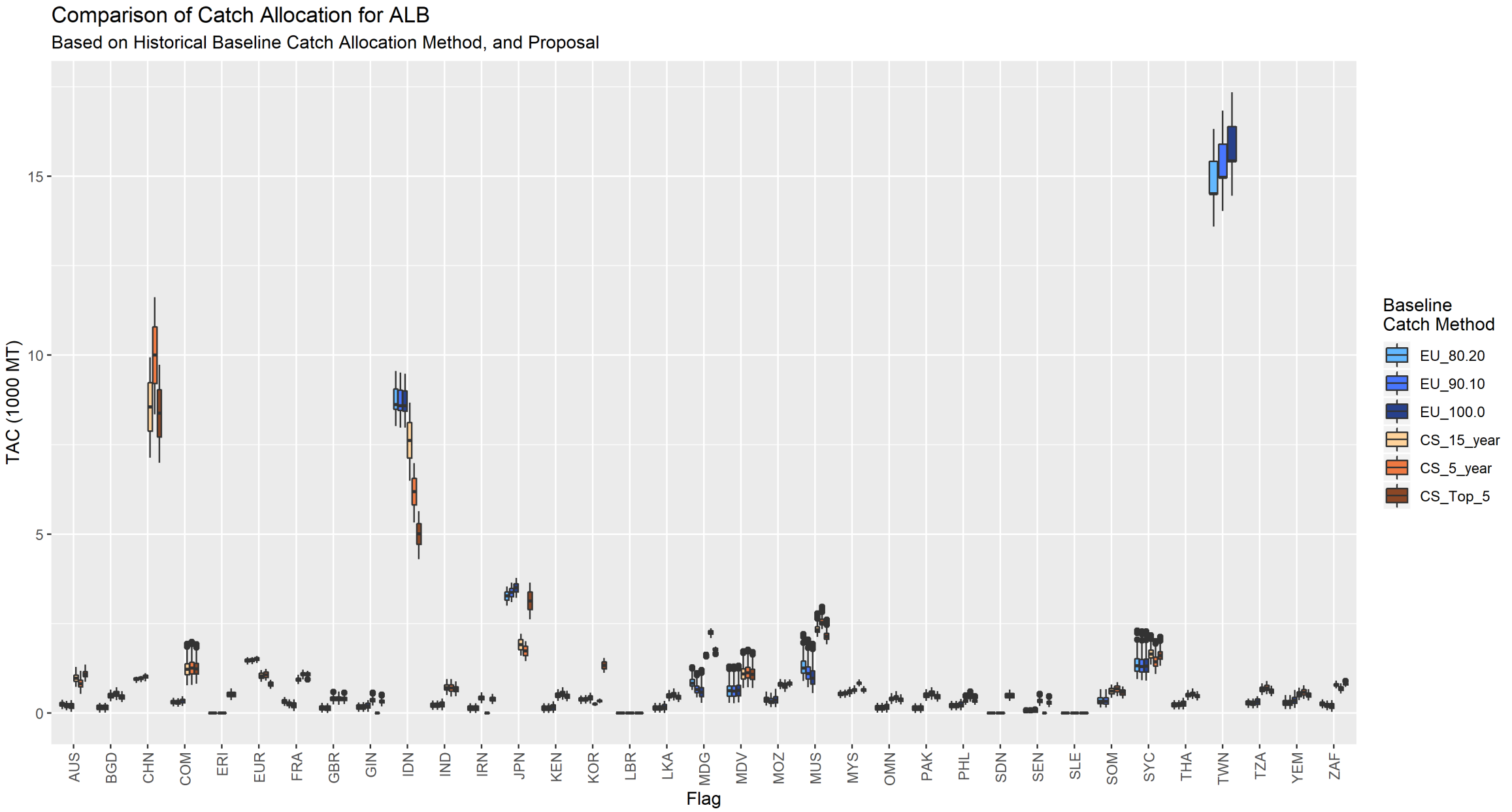


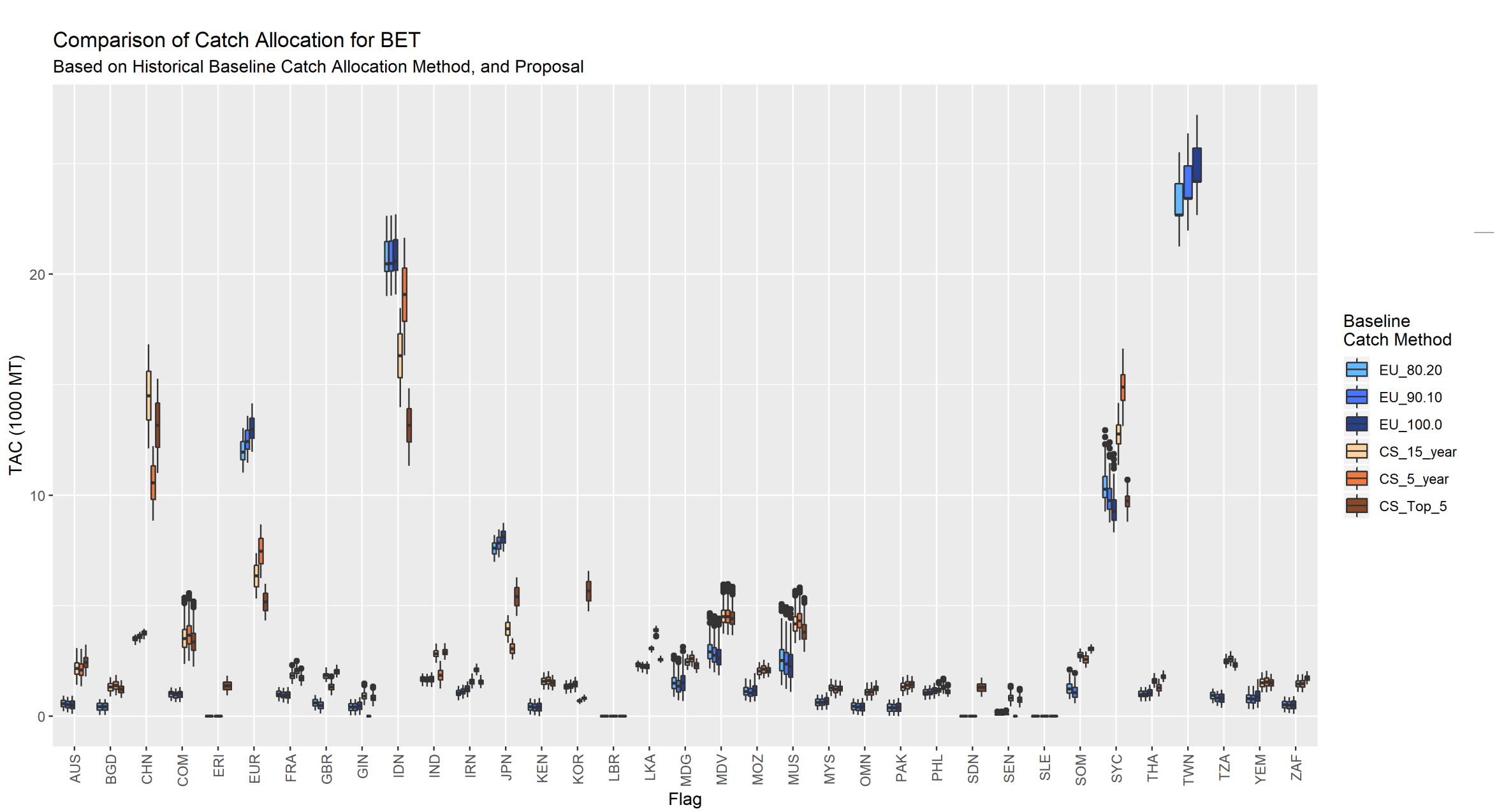
Comparison of Catch Allocation for YFT

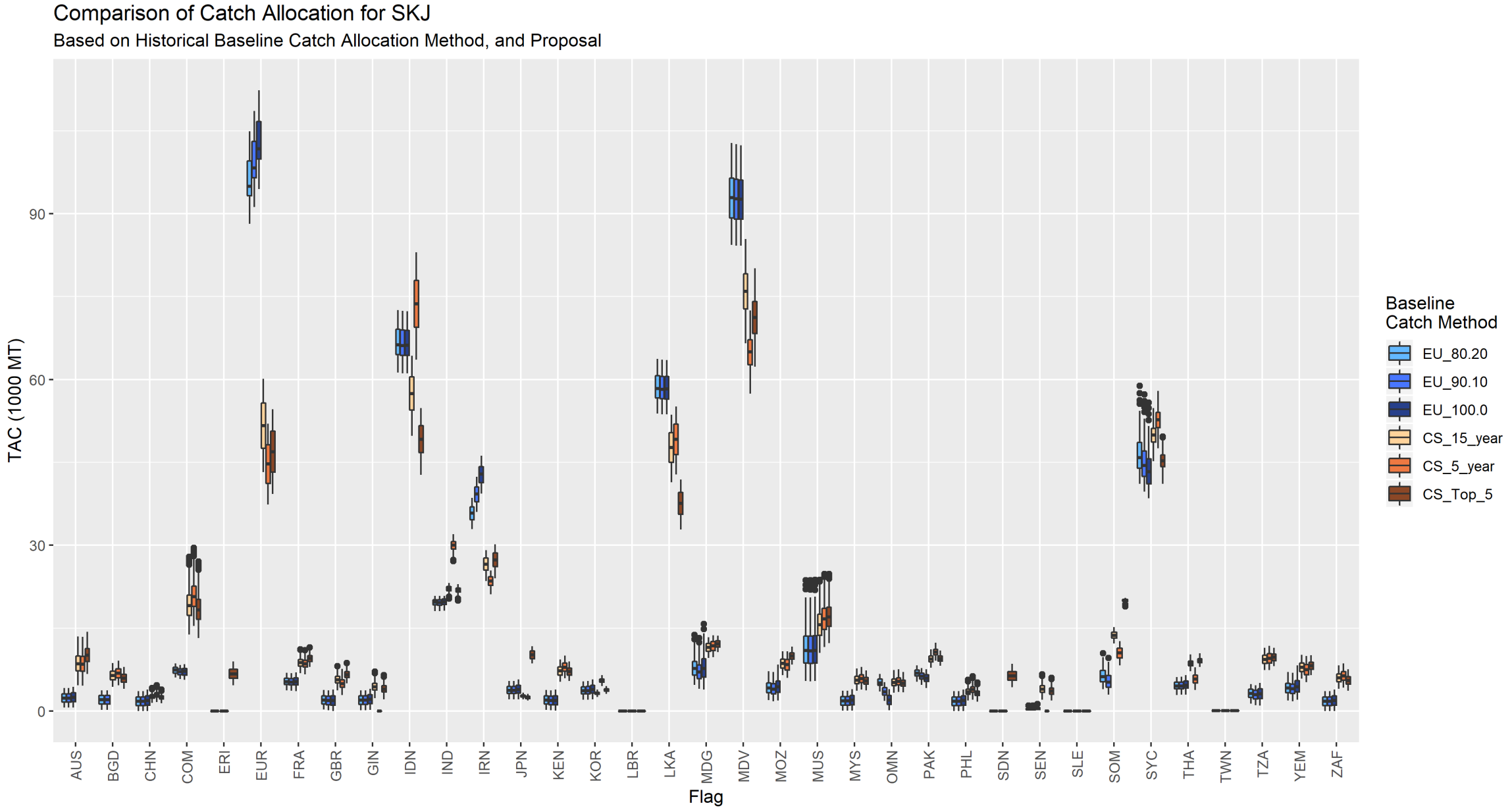
Based on Historical Baseline Catch Allocation Method, and Proposal

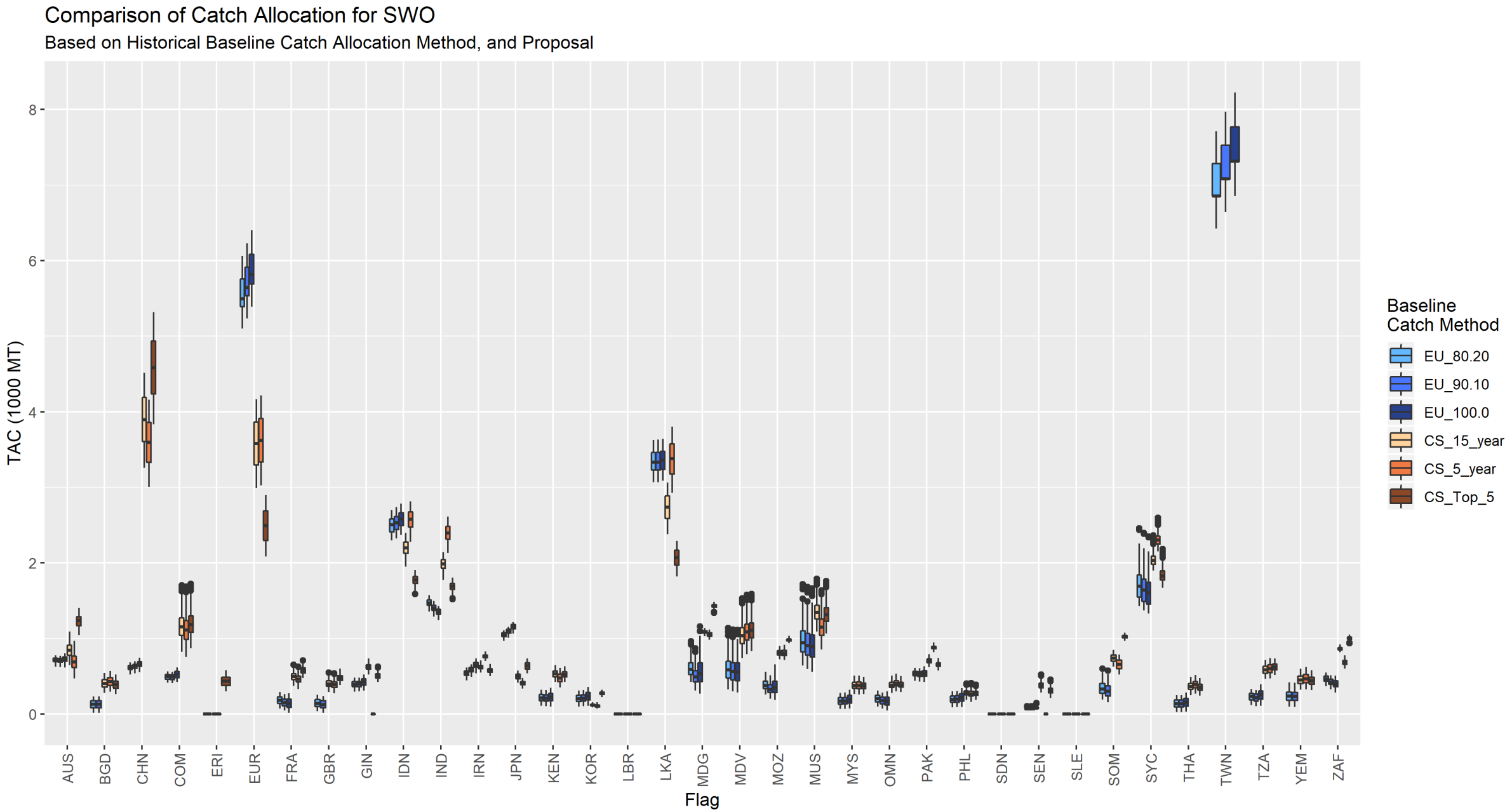


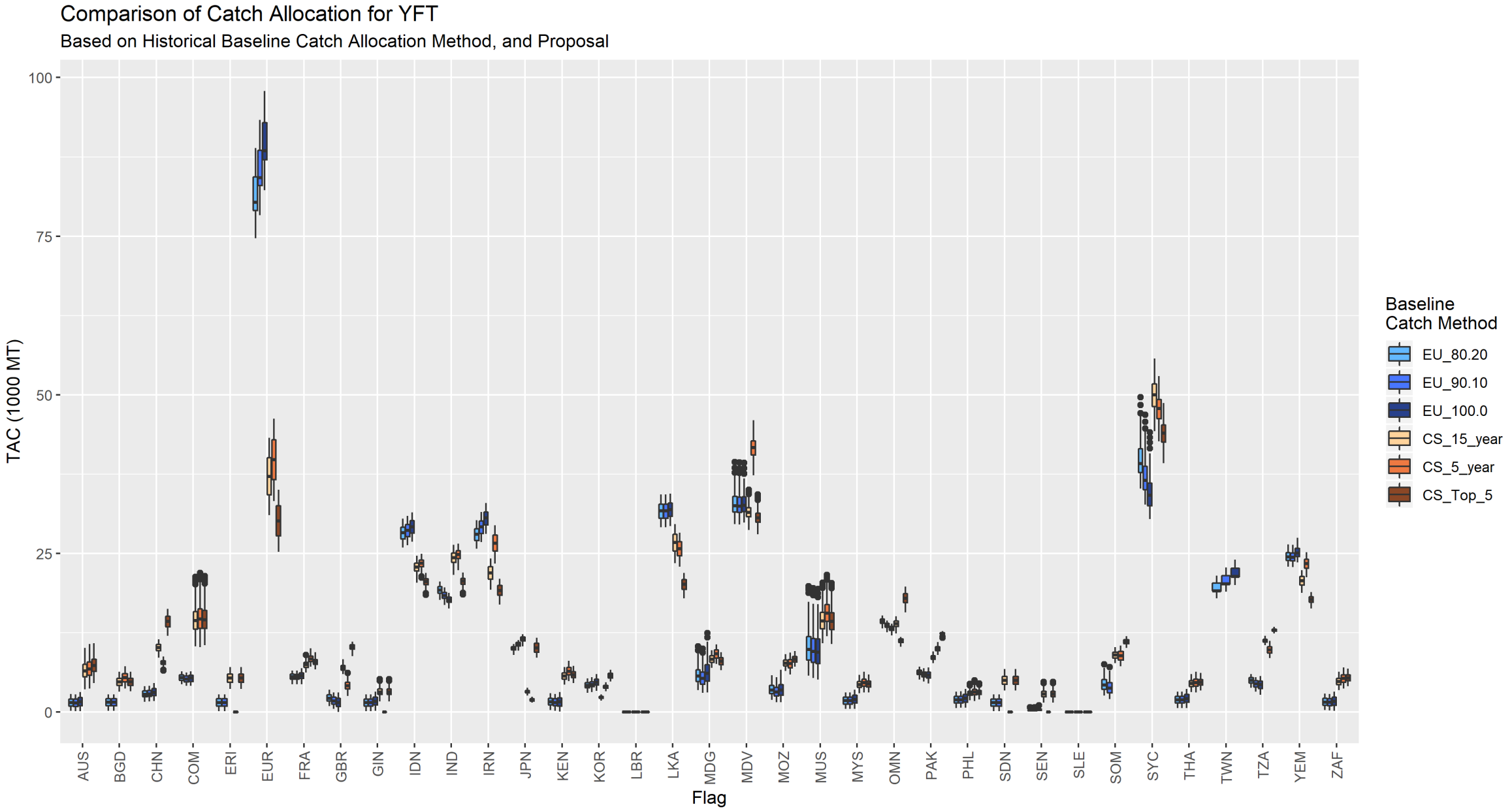
The following Slides show the same information on a common scale


Comparison of Catch Allocation for ALB
Based on Historical Baseline Catch Allocation Method, and Proposal
TAC (1000 MT)
0
5
10
15
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline
Catch Method
EU_80.20
EU_90.10
EU_100.0
CS_15_year
CS_5_year
CS_Top_5


Comparison of Catch Allocation for BET
Based on Historical Baseline Catch Allocation Method, and Proposal
TAC (1000 MT)
0
10
20
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline Catch Method
EU_80.20
EU_90.10
EU_100.0
CS_15_year
CS_5_year
CS_Top_5


Comparison of Catch Allocation for SKJ
Based on Historical Baseline Catch Allocation Method, and Proposal
TAC (1000 MT)
0
30
60
90
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline Catch Method
EU_80.20
EU_90.10
EU_100.0
CS_15_year
CS_5_year
CS_Top_5


Comparison of Catch Allocation for SWO
Based on Historical Baseline Catch Allocation Method, and Proposal
TAC (1000 MT)
0
2
4
6
8
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline
Catch Method
EU_80.20
EU_90.10
EU_100.0
CS_15_year
CS_5_year
CS_Top_5


Comparison of Catch Allocation for YFT
Based on Historical Baseline Catch Allocation Method, and Proposal
TAC (1000 MT)
100
75
50
25
0
AUS
BGD
CHN
COM
ERI
EUR
FRA
GBR
GIN
IDN
IND
IRN
JPN
KEN
KOR
LBR
LKA
MDG
MDV
MOZ
MUS
MYS
OMN
PAK
PHL
SDN
SEN
SLE
SOM
SYC
THA
TWN
TZA
YEM
ZAF
Flag
Baseline Catch Method
EU_80.20
EU_90.10
EU_100.0
CS_15_year
CS_5_year
CS_Top_5