



A theoretical Blue Shark Management Strategy Evaluation for SW Pacific

Global BSH MSE Workshop
Rome, Italy – October 2025

PRELIMINARY



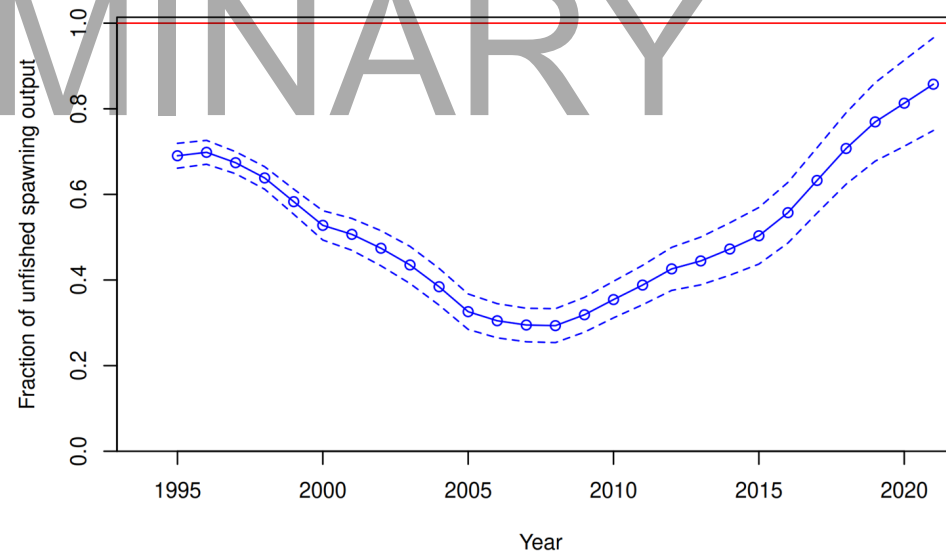
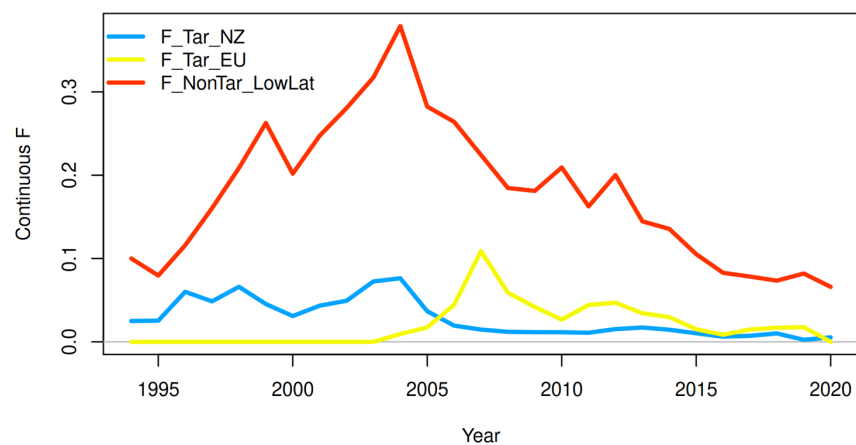
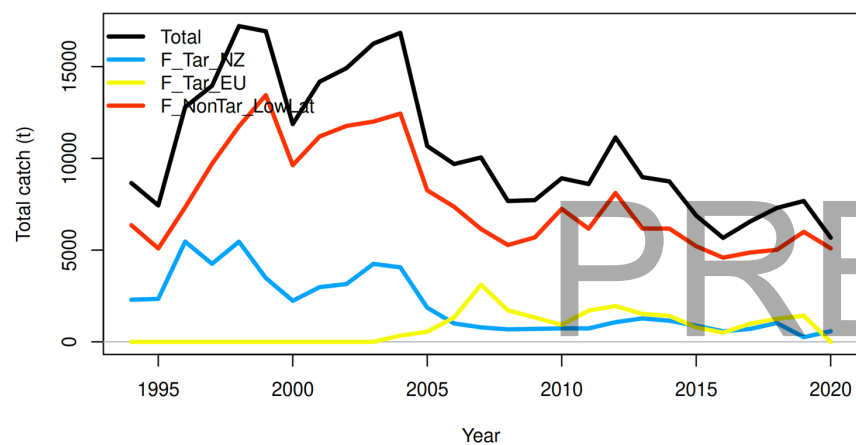


Breakout Session Part 2

Blue Shark Case Study: Base Case



Stock Overview: SW Pacific Blue Shark





Candidate SW Pacific Management Procedures

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[5] E_fixed_F2 SL1001 SL2001 SL1005 SL2005
> MPs
[1] "NFref" "FMSYref" "CurC" "ELL" "ELH" "EHL" "EHH"
[8] "E_fixed_F1" "E_fixed_F2" "SL1001" "SL2001" "SL1005" "SL2005"

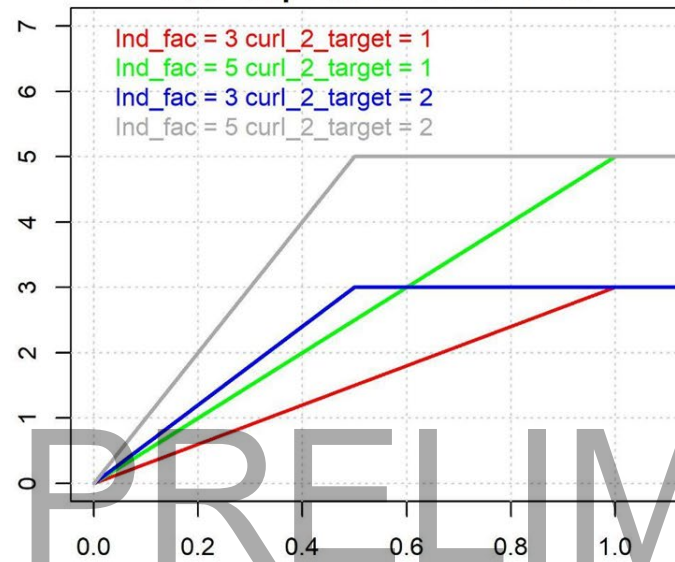
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- ▶ Reference (noF ; F_{msy} ; current Catch)
- ▶ Empirical default (at or 2x target; 3-5x catch per I)
- ▶ Fixed F (1,2 x F_{msy})
- ▶ Size limited (100cm, 200cm @ current & high (5x) effort)

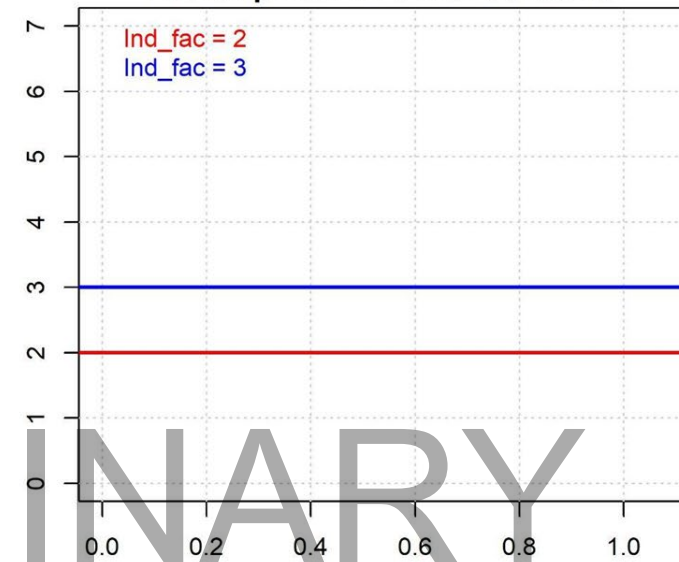




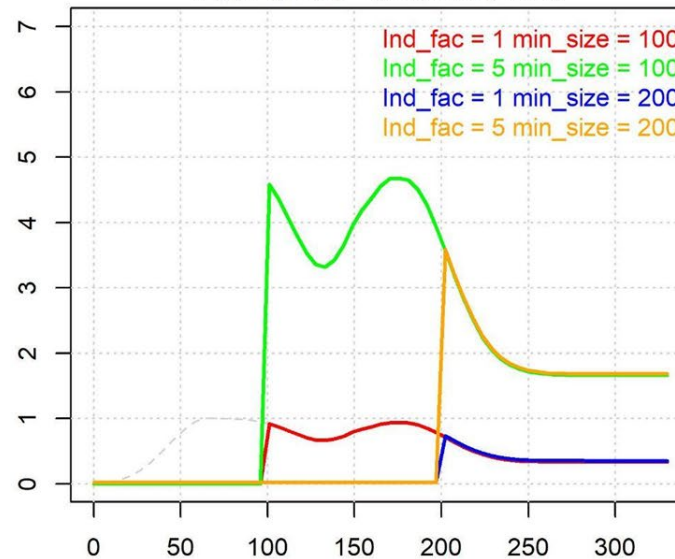
Four empirical MPs with HCRs



Two empirical MPs with constant F



Four effort - size limit MPs





Performance Metrics

	Status	Safety	P100	PNOF	Catch_ST	Catch_LT	MLC	SLogC
	All	All	All	All	All	All	All	All
NFref	1	1	1	1	0	0	197	-690
FMSYref	0.313	0.93	0.308	0.0828	16400	6540	176	275
CurC	1	1	1	1	4410	4260	194	251
ELL	0.74	0.954	0.819	0.79	6570	12900	179	274
ELH	0.914	0.994	0.944	0.938	6570	12100	184	274
EHL	0.617	0.87	0.717	0.63	6570	12000	173	272
EHH	0.847	0.988	0.891	0.894	6570	12600	181	275
E_fixed_F1	0.984	1	0.986	0.995	6570	11000	186	272
E_fixed_F2	0.842	0.987	0.885	0.889	6570	12700	181	275
SL1001	1	1	1	1	6690	6870	194	264
SL2001	1	1	1	1	3550	3980	195	247
SL1005	0.734	0.997	0.729	1	20100	12300	181	288
SL2005	1	1	1	1	11300	11000	188	279



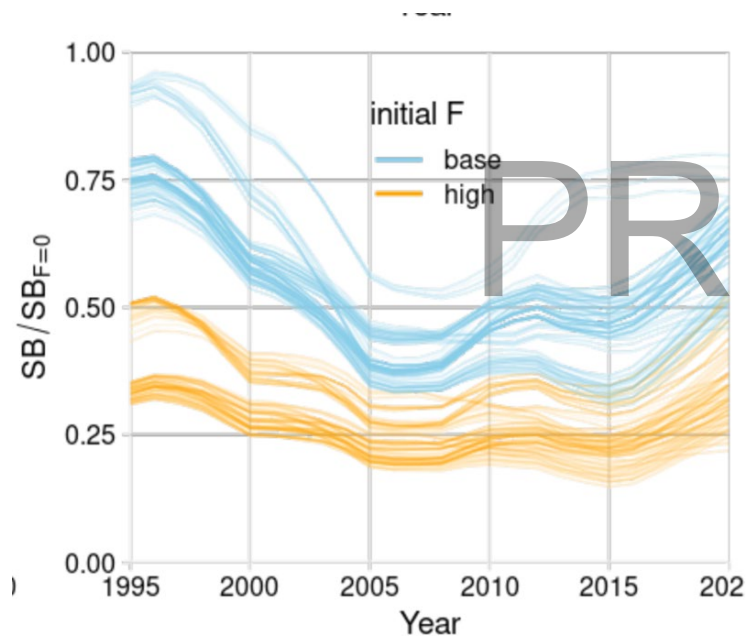
Breakout Session Part 3

Alternative OMs: Reference and Robustness



SW Pacific Alternative OMs

Key uncertainties



	Considered Values		
A M	$0.8 \times M$	M	$1.2 \times M$
B initial F	$0.5 \times \text{base}$	base	$1.5 \times \text{base}$



SW Pacific Alternative OMs (continued)

Reference set OMs

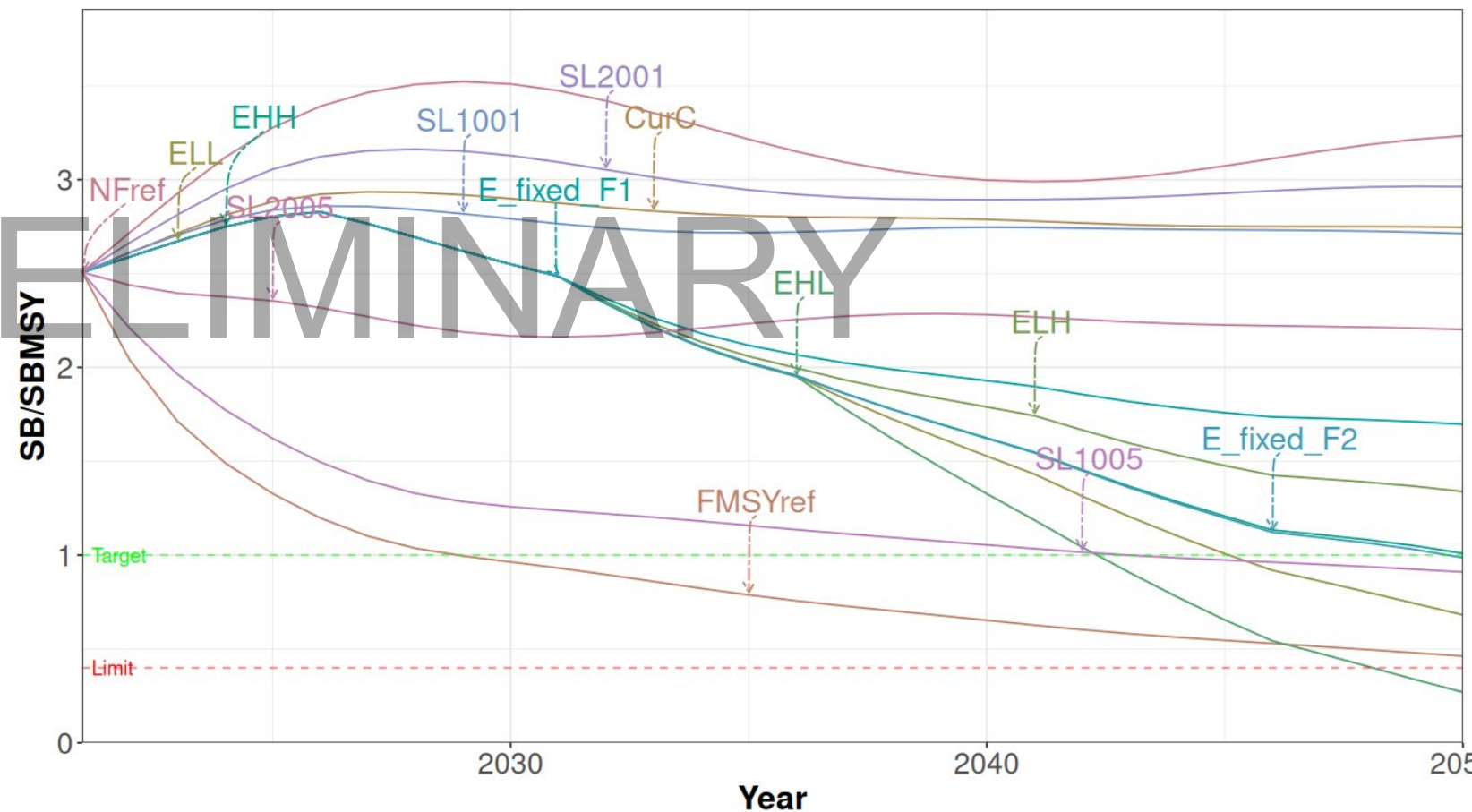
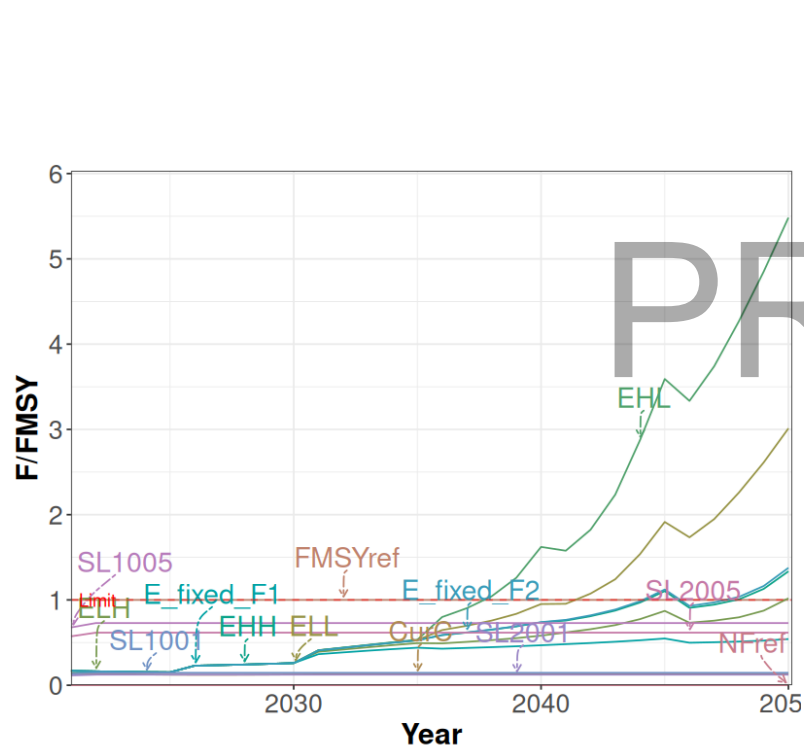
TOTAL NUMBER
OF OMs

9

	<i>M</i>	<i>init F</i>	...
OM1	0.8 M	0.5 iF	...
OM2	0.8 M	iF	
OM3	0.8 M	1.5 iF	
OM4	M	0.5 iF	
OM5	M	iF	
OM6	M	1.5 iF	
OM7	1.2 M	0.5 iF	
OM8	1.2 M	iF	
OM9	1.2 M	1.5 iF	

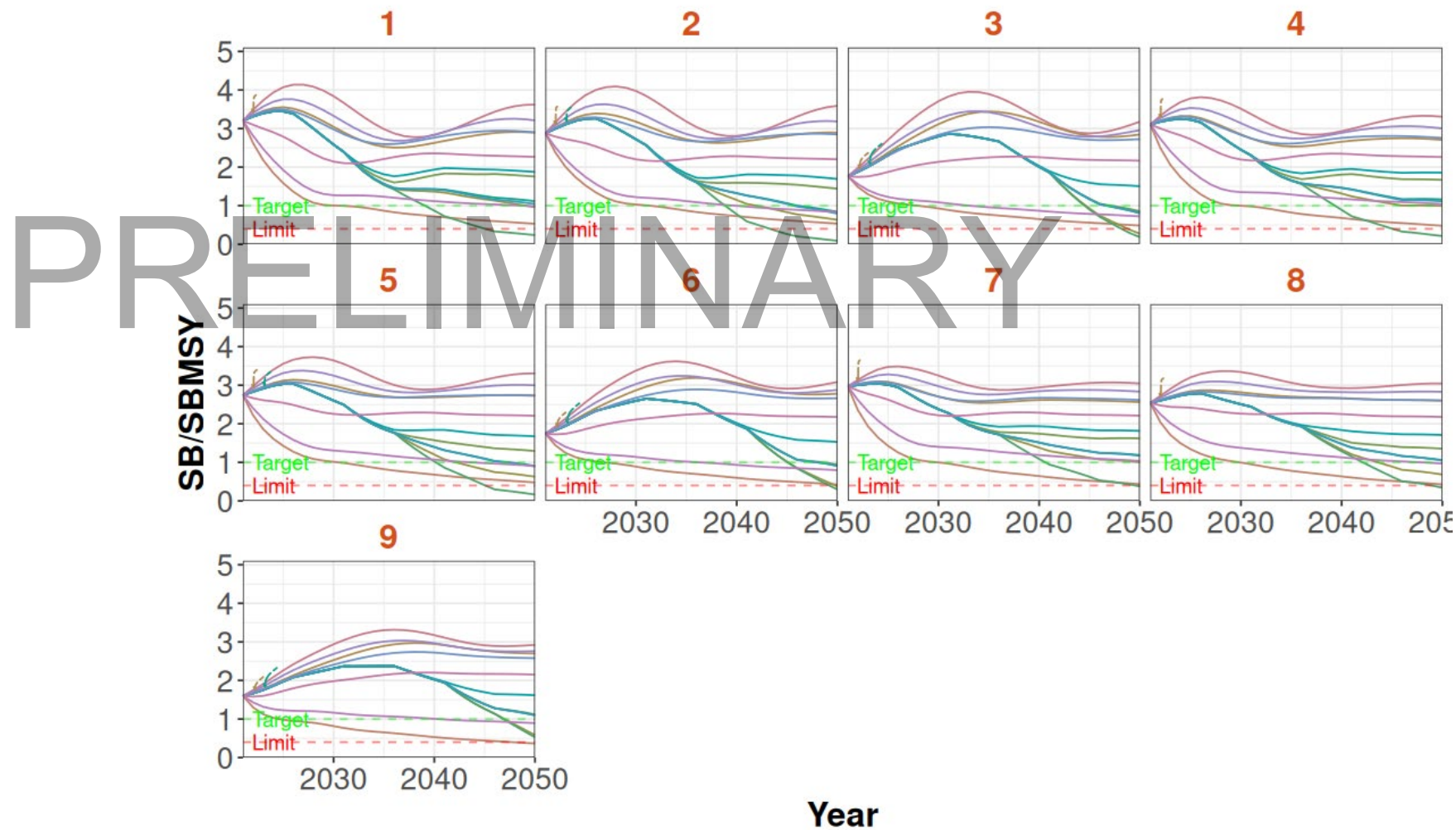


SW Pacific Operating Models





SW Pacific Operating Models





Visualizing Results

Slick Breakout Session

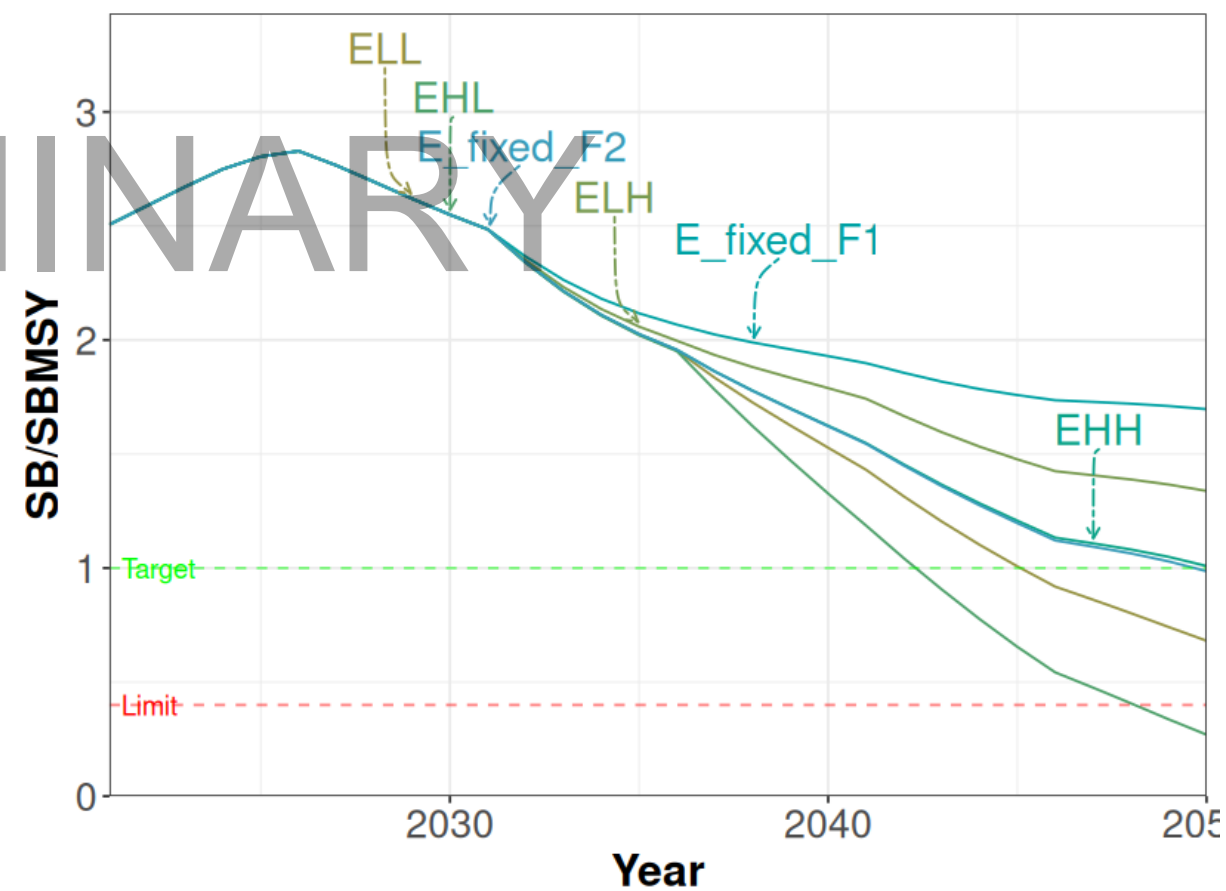
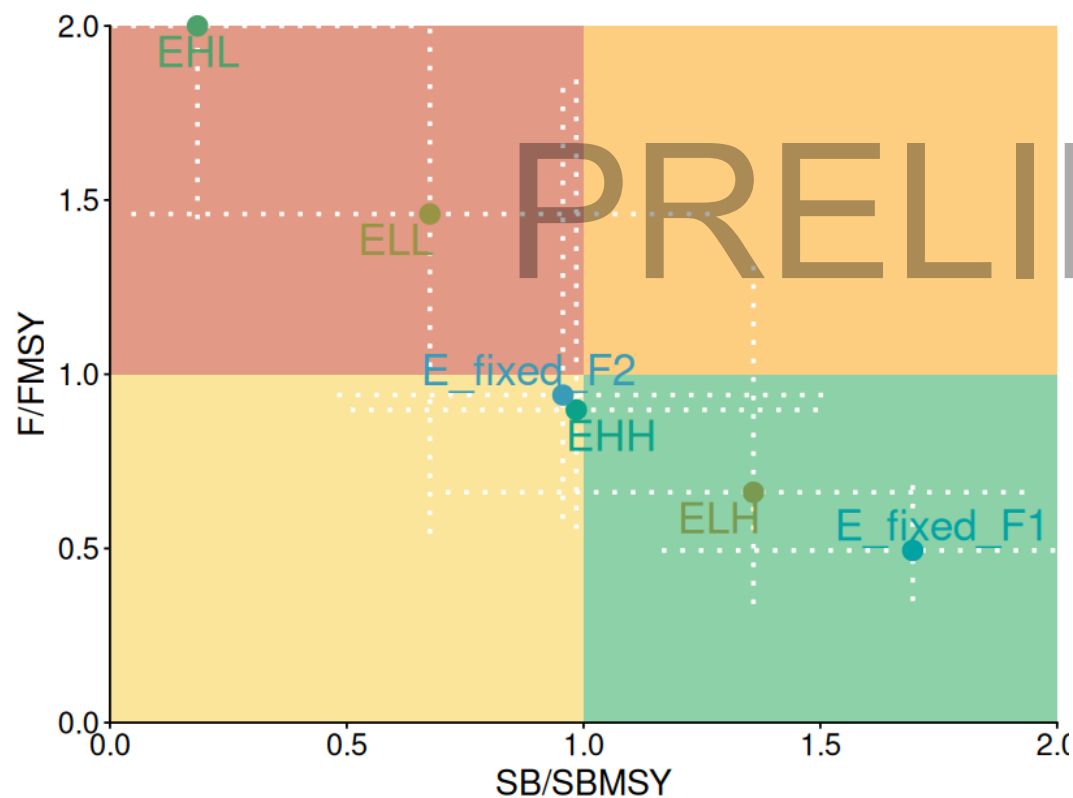
PRELIMINARY



Candidate MP Performance

Time Series Plots - Biomass

[add any necessary supplemental info: (e.g., Median values over 20-year projection (2020-2040))]

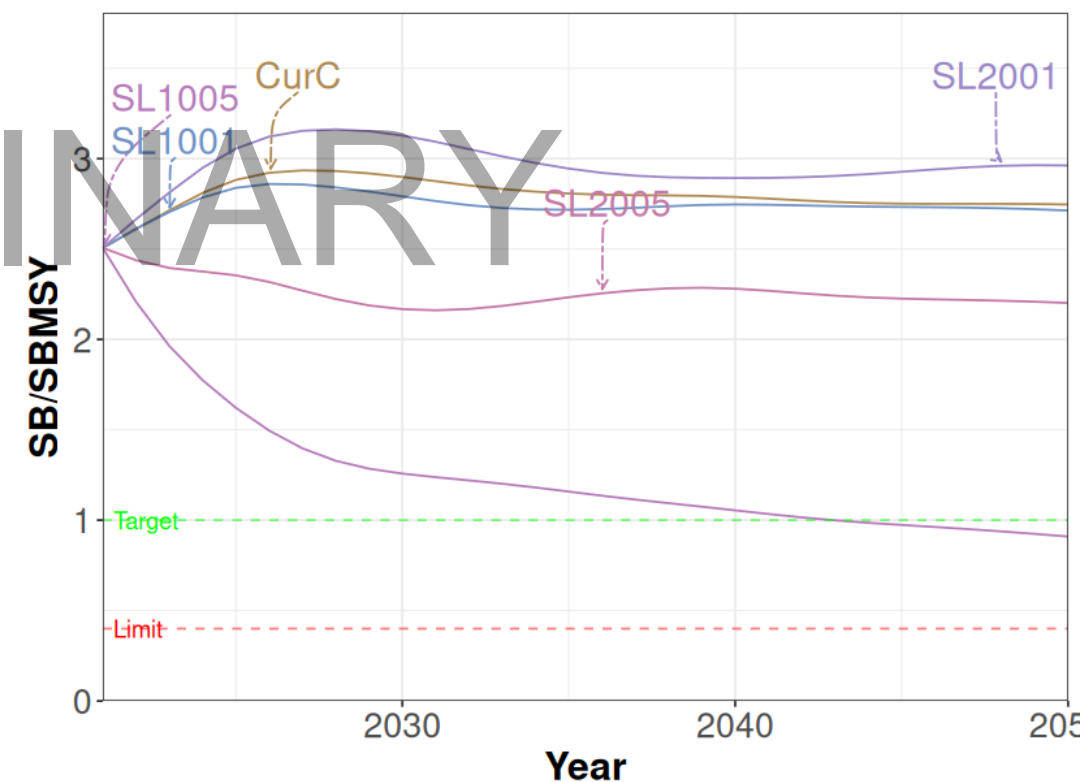
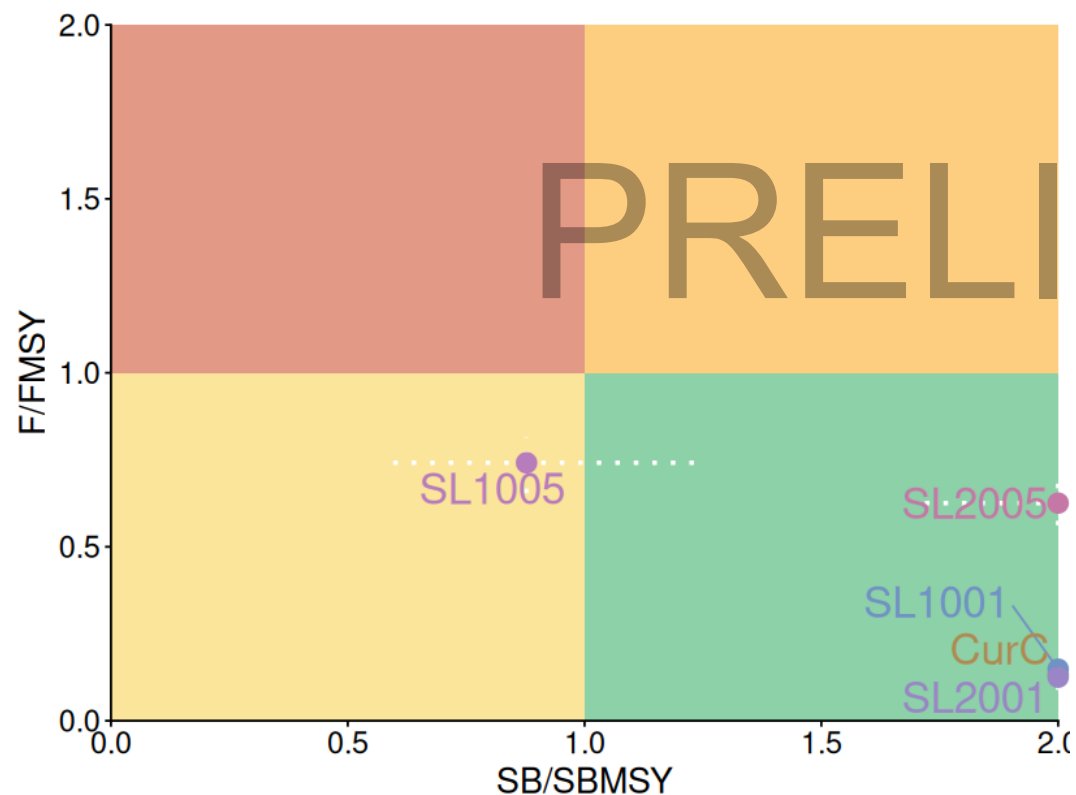




Candidate MP Performance

Time Series Plots - Biomass

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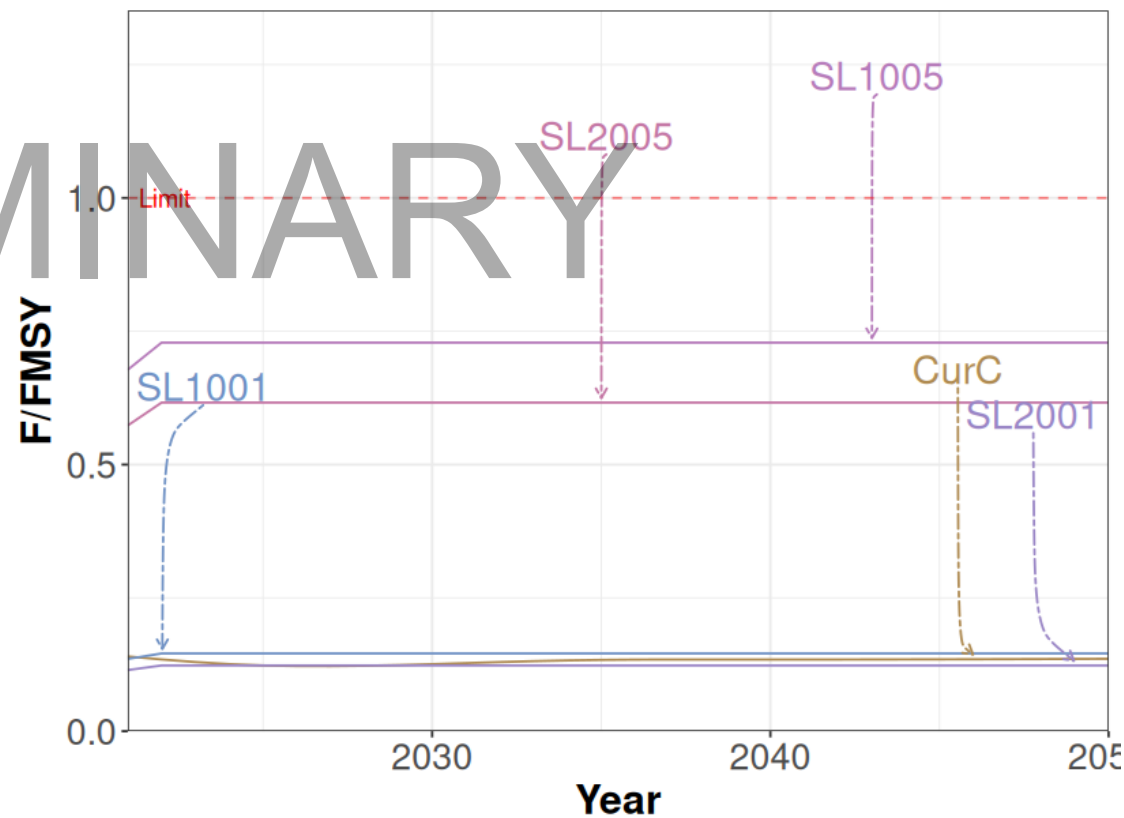
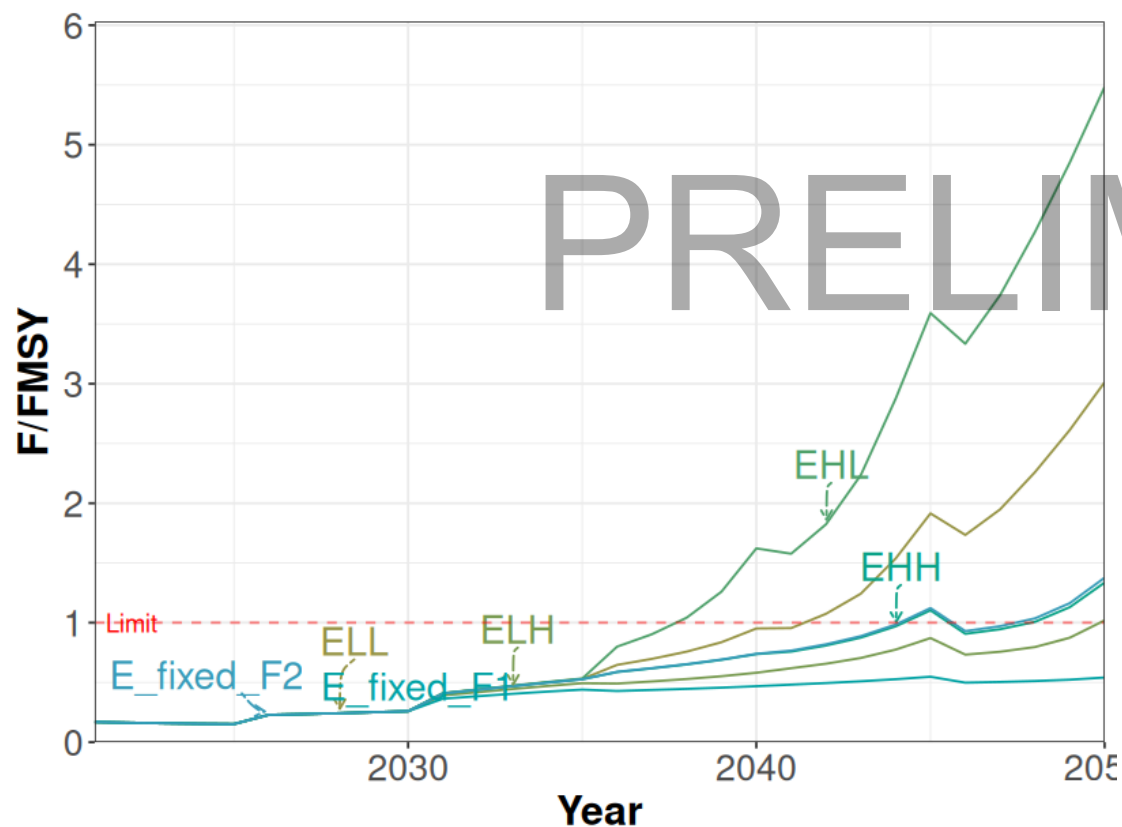




Candidate MP Performance

SUMMARY OF RESULTS

Initial results are similar; differences in long term only given current status

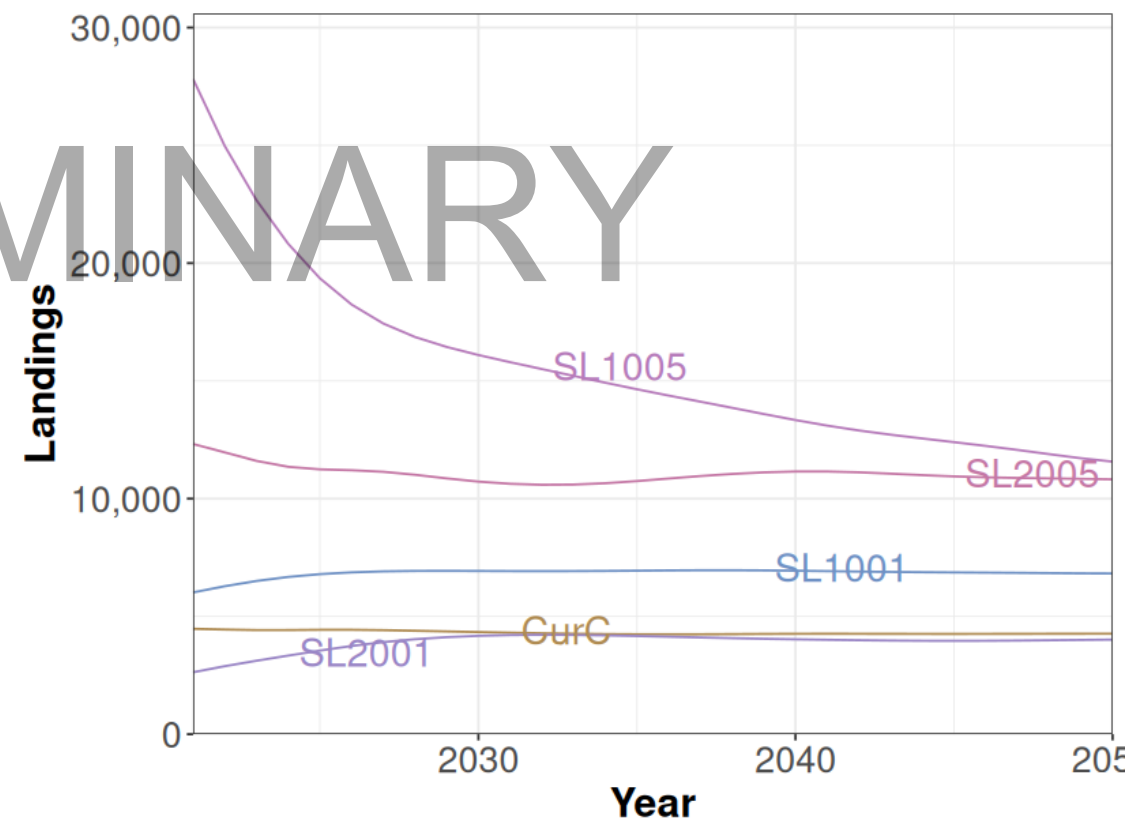
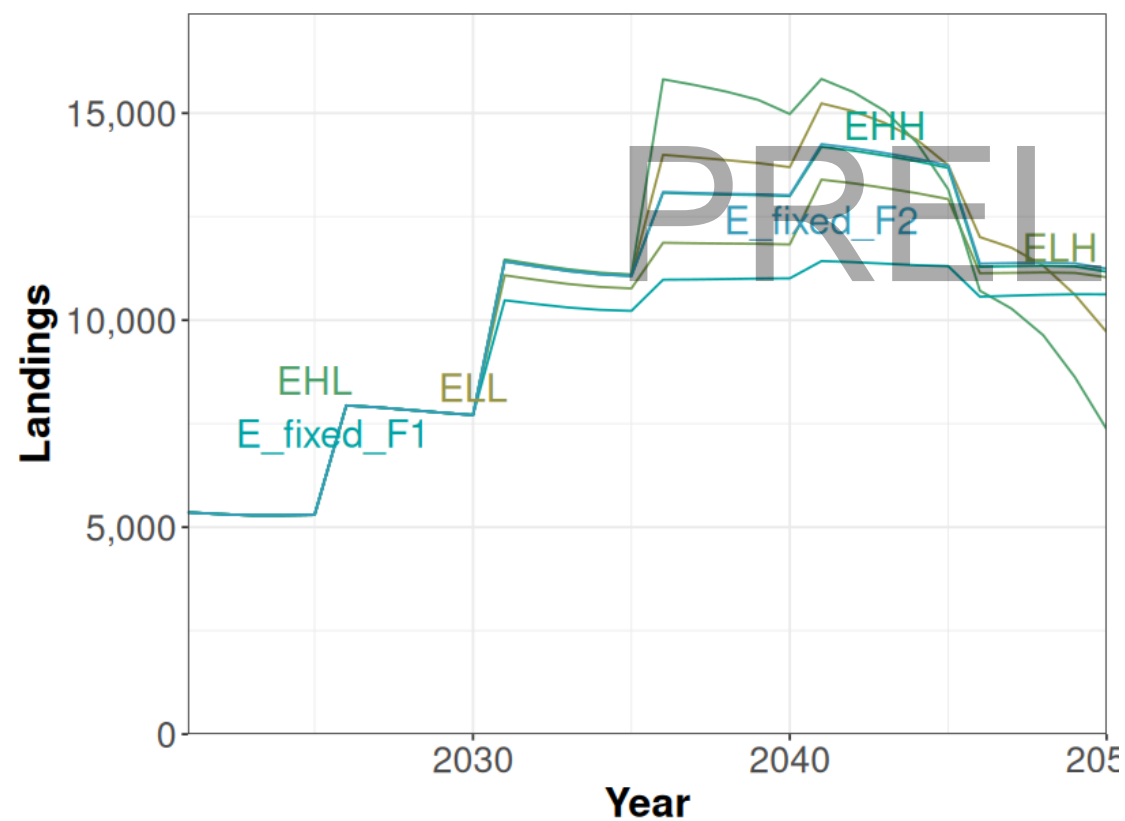




Candidate MP Performance

SUMMARY OF RESULTS

Initial results are similar; differences in long term only given current status





Candidate MP Performance

Quilt Table

[add any necessary supplemental info]

SUMMARY OF RESULTS

[insert summary of key takeaways]

	Status	Safety	P100	PNOF	Catch_ST	Catch_LT	MLC	SLogC
	All	All	All	All	All	All	All	All
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Key Results and Considerations

- ▶ *Only scratched the surface...*
- ▶ *Empirical control rules probably can work (on paper) - but would need to look at alternative settings*
- ▶ *Size limits illustrative only - 200cm would constrain total F even if effort is very high*

PRELIMINARY



Draft Workplan

- ▶ Run in parallel with SWO (proposed to start 2026)? Might as well?

PRELIMINARY



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Questions from the group?