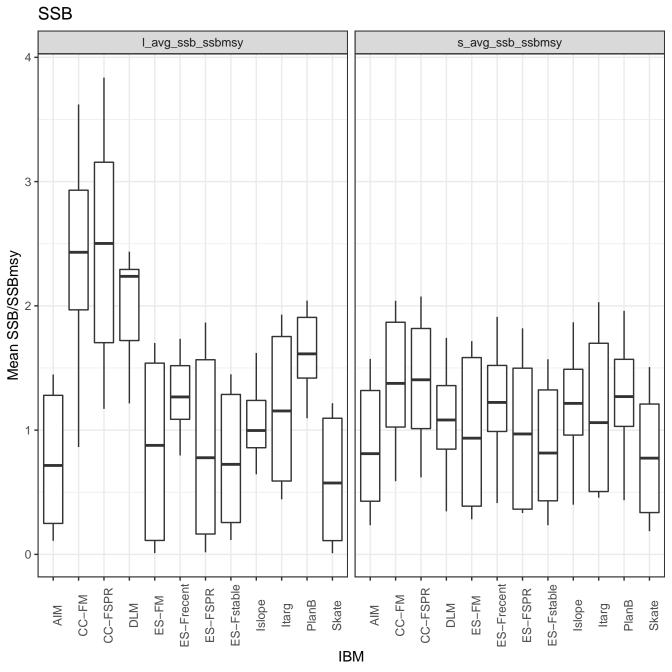
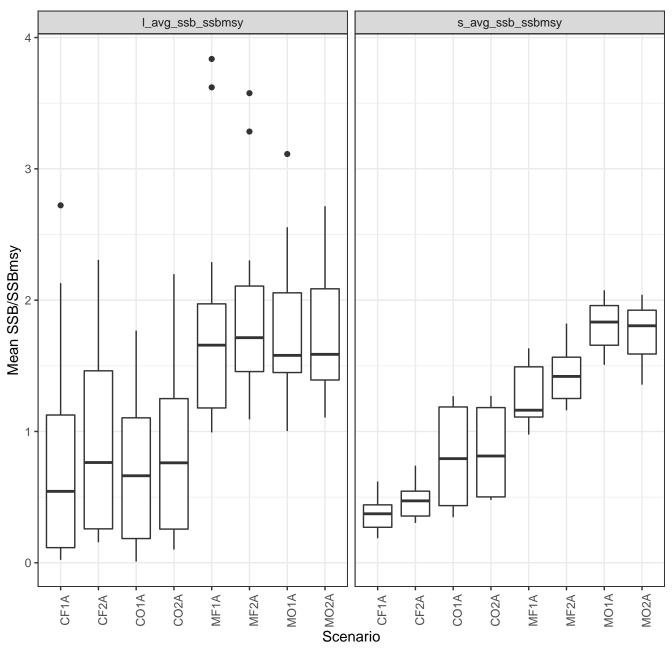
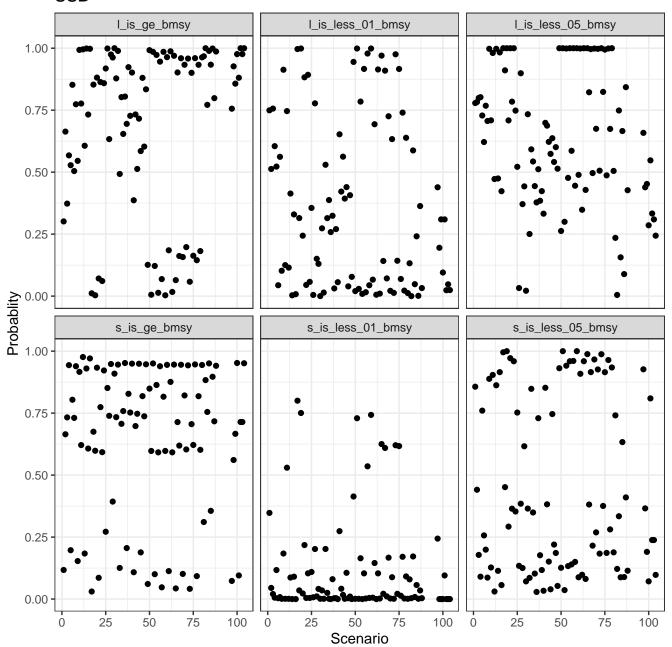


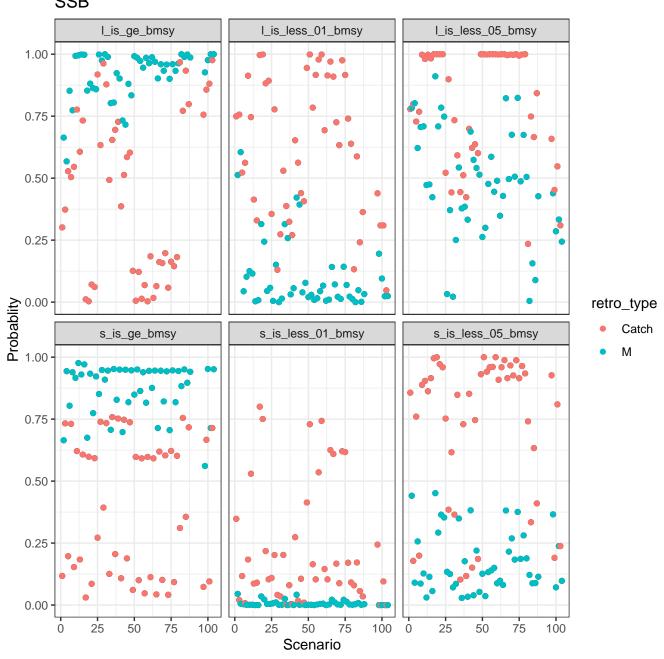
SSB I\_n\_less\_01\_bmsy I\_n\_less\_05\_bmsy I\_n\_ge\_bmsy 20 -15 -10 5 Mean Number of Years s\_n\_ge\_bmsy s\_n\_less\_01\_bmsy s\_n\_less\_05\_bmsy 15 10 5 0 M ES-Frecent ES-Frecent ES-Fstable ES-Frecent ES-Fstable ES-Fstable ES-FSPR CC-FSPR CC-FSPR ES-FSPR CC-FSPR ES-FSPR CC-FM DLM ES-FM ES-FM ES-FM CC-FM CC-FM Islope Islope Itarg PlanB DLM Islope Skate Itarg PlanB Skate Itarg PlanB DLM AIM Skate AIM

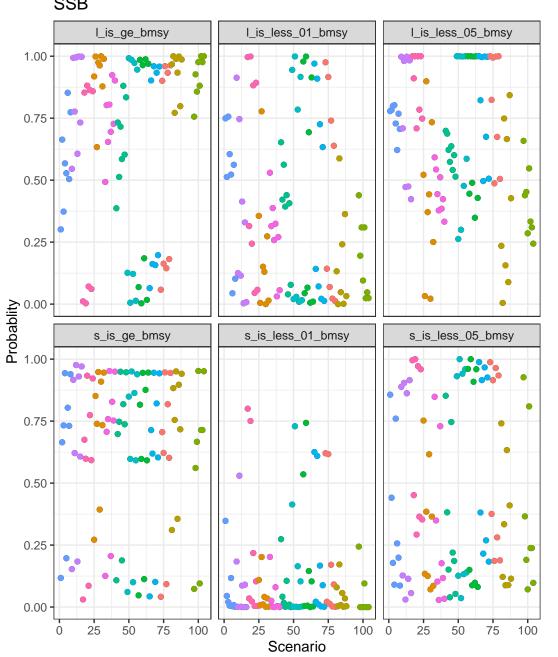
SSB I\_n\_ge\_bmsy I\_n\_less\_01\_bmsy I\_n\_less\_05\_bmsy 20 -15**-**10 -5 -Mean Number of Years s\_n\_less\_01\_bmsy s\_n\_less\_05\_bmsy s\_n\_ge\_bmsy 15 -10 -5 MO1A MO2A MO2A MO2A MF2A -Scenario CF2A MO1A MO1A CF2A CO1A MF1A MF2A CF1A CF2A CO1A CF1A C01A CO2A MF1A CO2A











## **IBMIab**

- AIM
- CC-FM CC-FSPR
- DLM
- ES-FM
- ES-Frecent

ES-Fstable

- ES-FSPR
- Islope
- Itarg
- PlanB
- Skate

SSB I\_is\_less\_01\_bmsy I\_is\_ge\_bmsy I\_is\_less\_05\_bmsy 1.00 -0.75 -0.50 0.25 -Probablity - 00.0 factor(Fhist) 1 s\_is\_ge\_bmsy s\_is\_less\_01\_bmsy s\_is\_less\_05\_bmsy 2 0.75 0.50 -0.25 -0.00 50 25 25 50 75 100 0 . 25 75 100 Ö 50 . 75 100 Scenario

SSB I\_is\_less\_01\_bmsy I\_is\_ge\_bmsy l\_is\_less\_05\_bmsy 1.00 0.75 -0.50 0.25 -Probablity 100.0 factor(n\_selblocks) s\_is\_ge\_bmsy s\_is\_less\_01\_bmsy s\_is\_less\_05\_bmsy 2 1.00 0.75 -0.50 -0.25 0.00

100

0

25

50

75

100

25

50

. 75 100 0

25

50

Scenario

75

SSB l\_is\_less\_05\_bmsy I\_is\_ge\_bmsy I\_is\_less\_01\_bmsy 1.00 0.75 -0.50 -0.25 -Probablity factor(catch.mult) s\_is\_ge\_bmsy s\_is\_less\_01\_bmsy s\_is\_less\_05\_bmsy 0.75 0.50 -0.25 -

Ö

25

50

75

100

100

75

50

Scenario

0.00

0

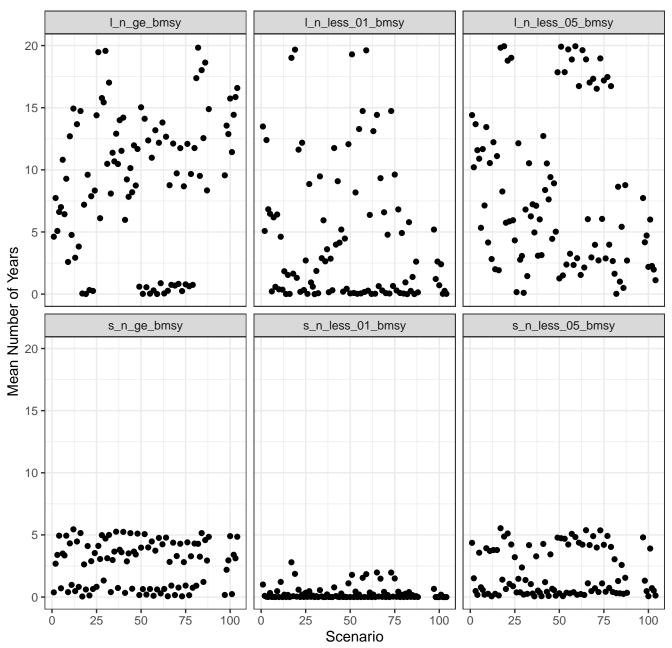
25

50

75

100 0

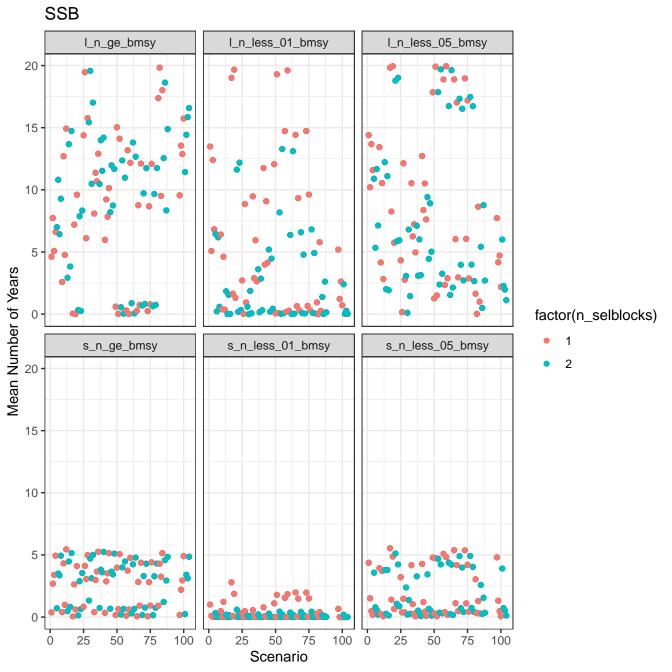
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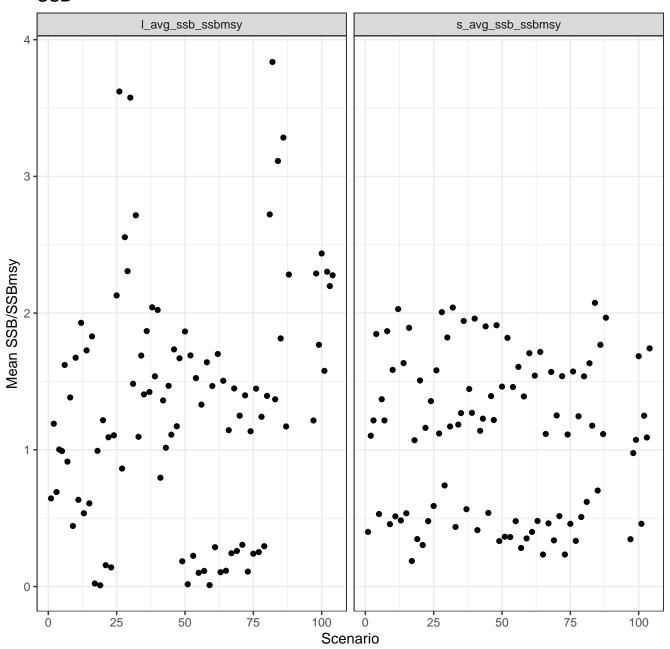
SSB I\_n\_less\_01\_bmsy I\_n\_less\_05\_bmsy I\_n\_ge\_bmsy 20 -15 -10 -5 -Mean Number of Years retro\_type Catch s\_n\_ge\_bmsy s\_n\_less\_01\_bmsy s\_n\_less\_05\_bmsy M 15 **-**10 -**7**5 50 25 50 100 0 25 <del>7</del>5 100 0 25 50 75 100 Scenario

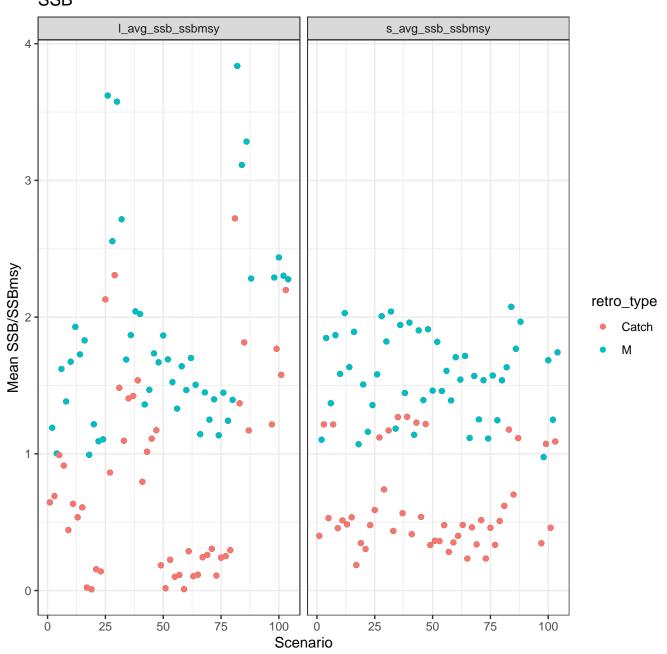
SSB I\_n\_ge\_bmsy I\_n\_less\_01\_bmsy I\_n\_less\_05\_bmsy 20 -15 -10-**IBMIab** AIM CC-FM 5 -CC-FSPR Mean Number of Years DLM ES-FM ES-Frecent s\_n\_ge\_bmsy s\_n\_less\_01\_bmsy s\_n\_less\_05\_bmsy ES-FSPR ES-Fstable Islope 15 -Itarg PlanB Skate 10 -5 -25 50 75 100 0 25 50 . 75 100 0 25 50 75 100 Scenario

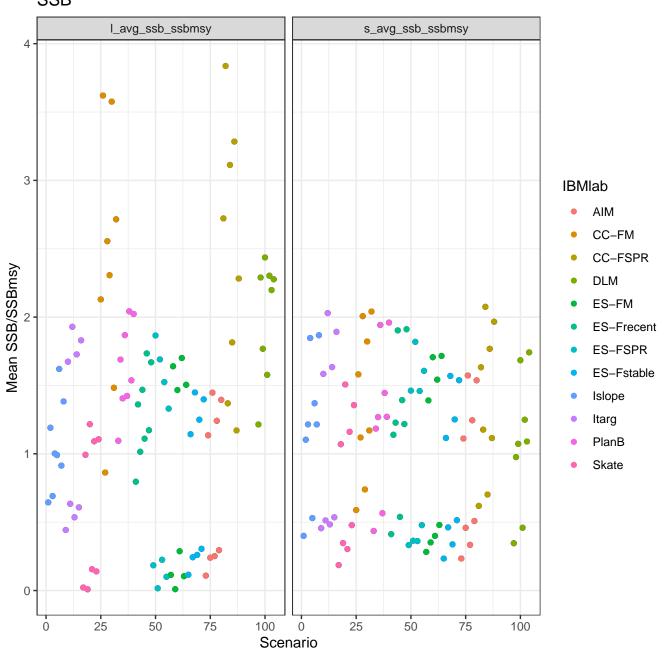
SSB I\_n\_less\_01\_bmsy I\_n\_ge\_bmsy I\_n\_less\_05\_bmsy 20 -15 -10 -Mean Number of Years factor(Fhist) s\_n\_less\_05\_bmsy s\_n\_ge\_bmsy s\_n\_less\_01\_bmsy 2 15 **-**10 -5 50 75 25 25 50 <del>7</del>5 100 0 25 100 0 50 75 100 Scenario

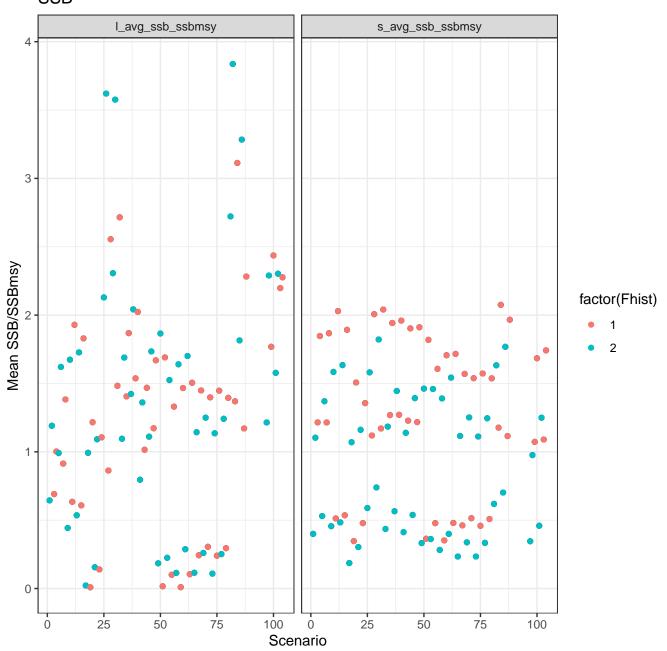


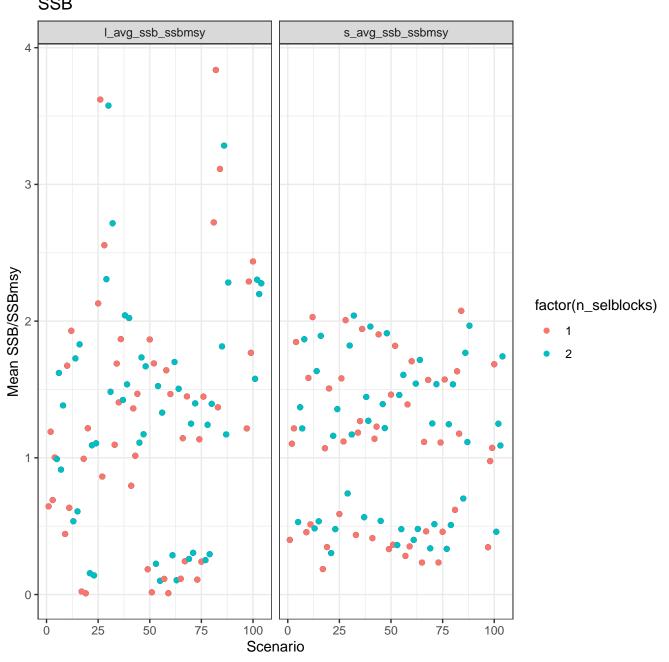
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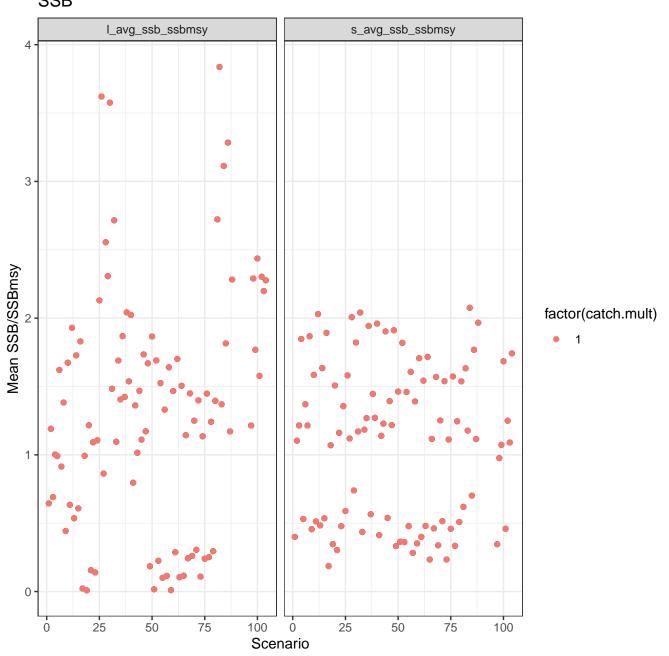


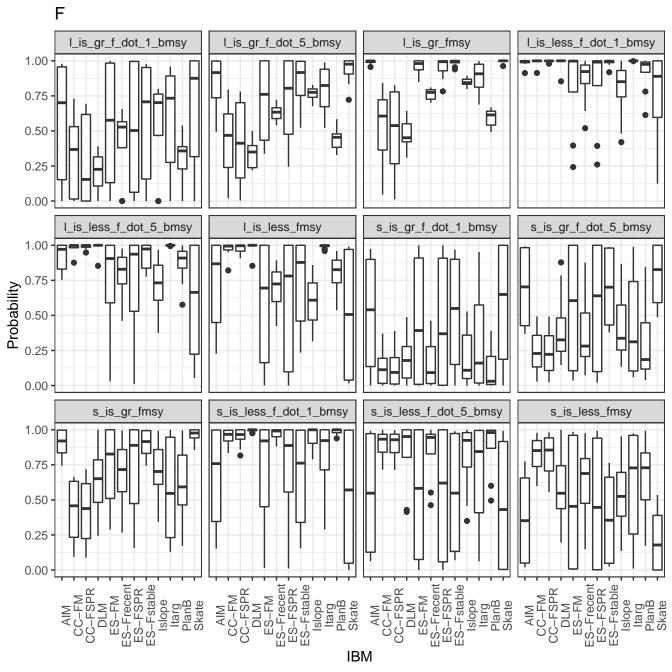


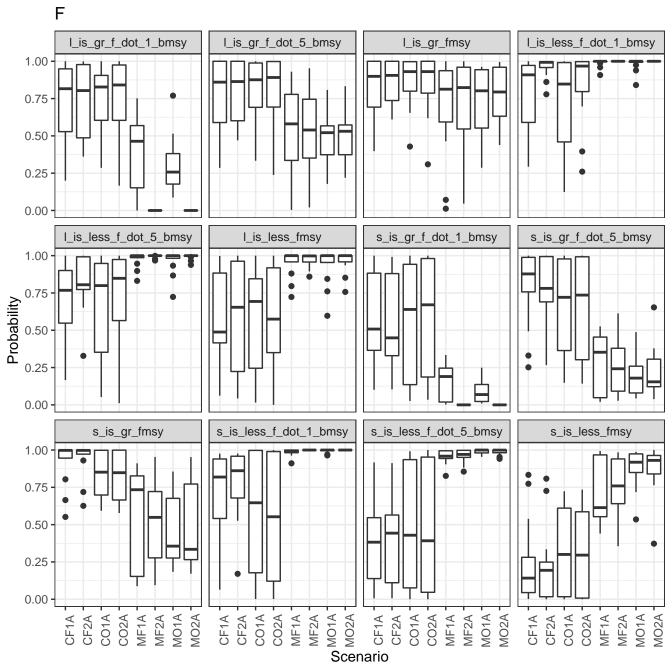


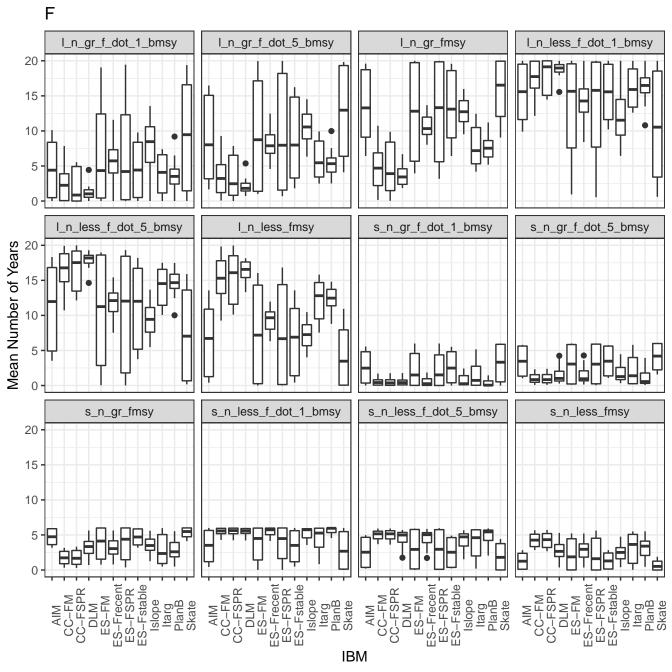


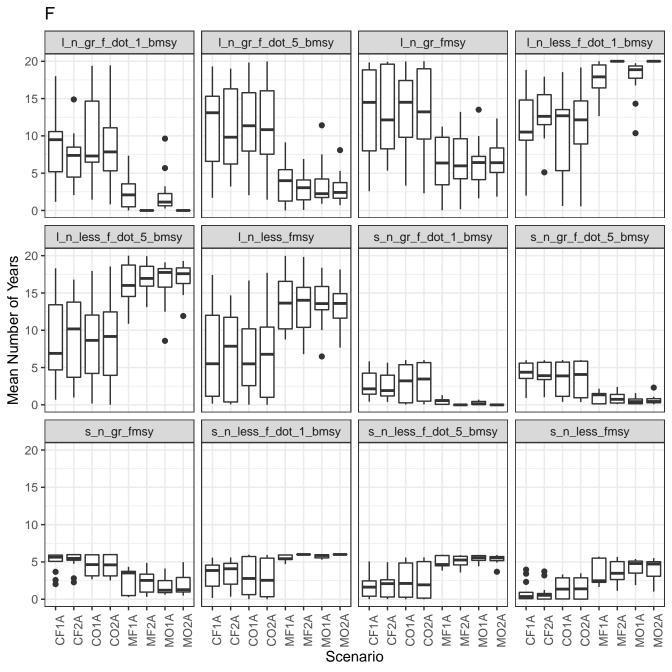


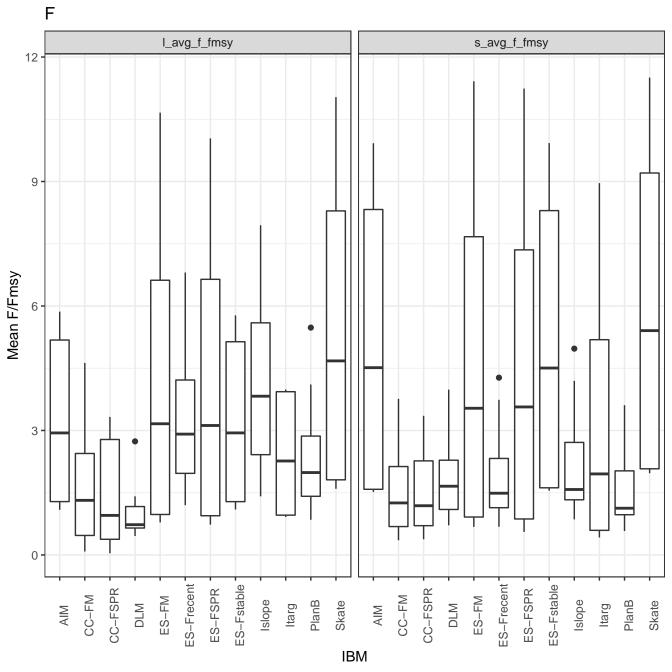


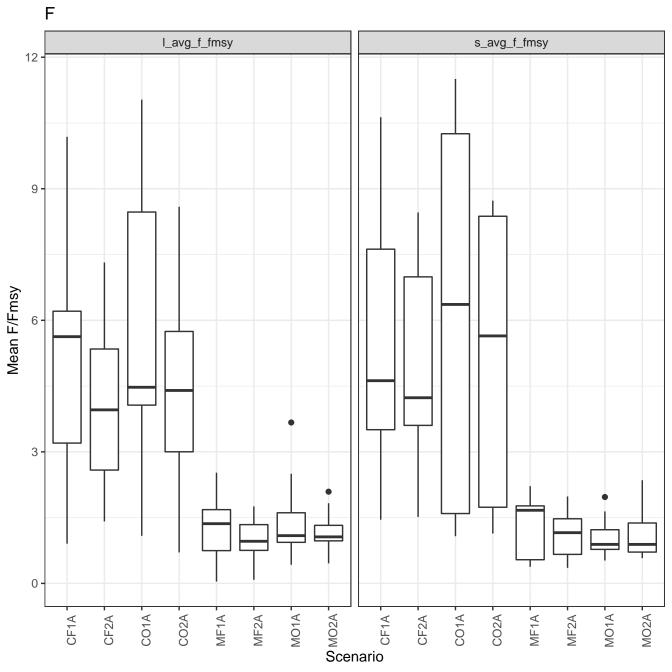


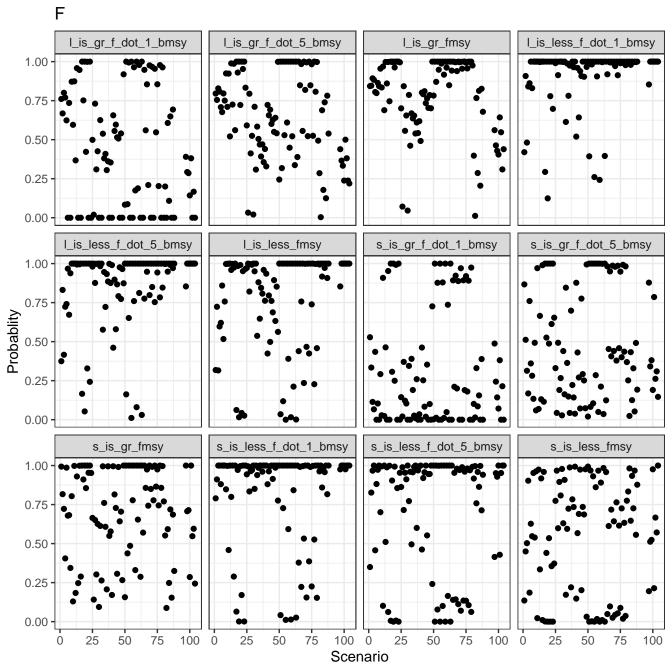


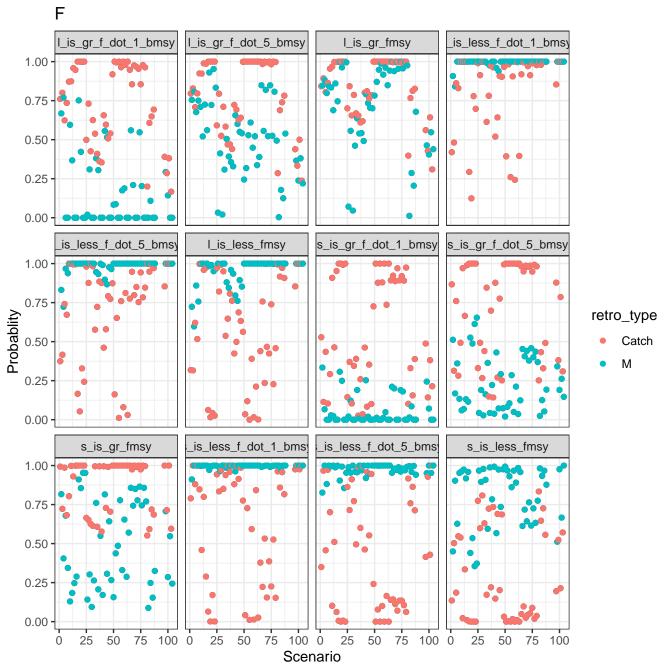


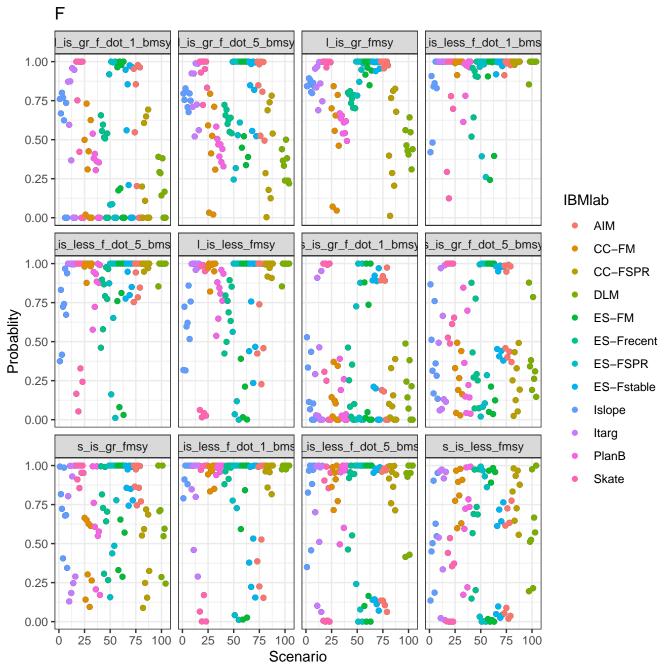


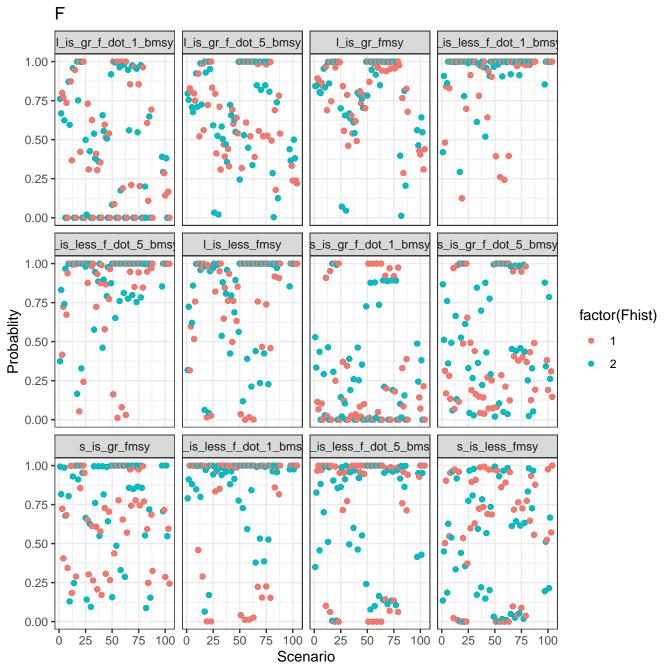


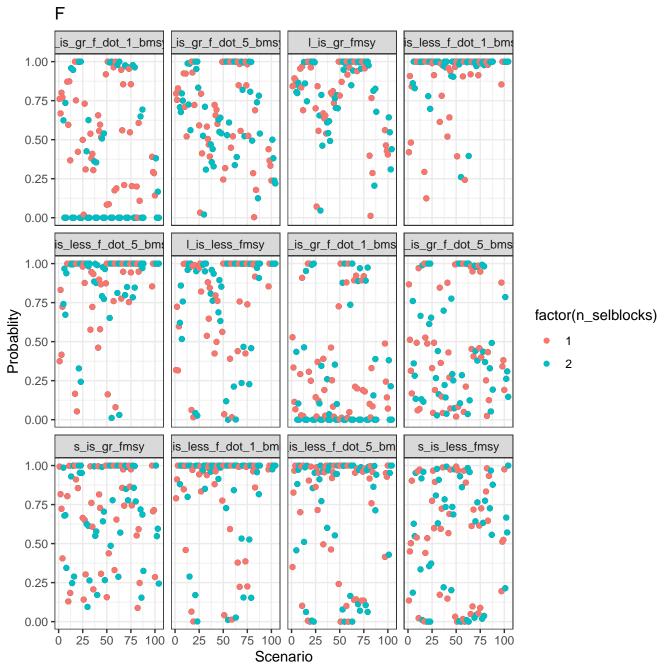


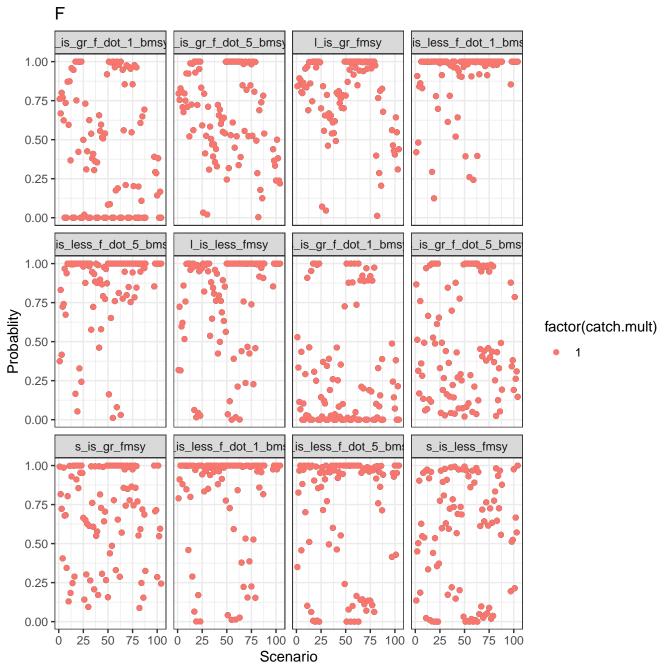




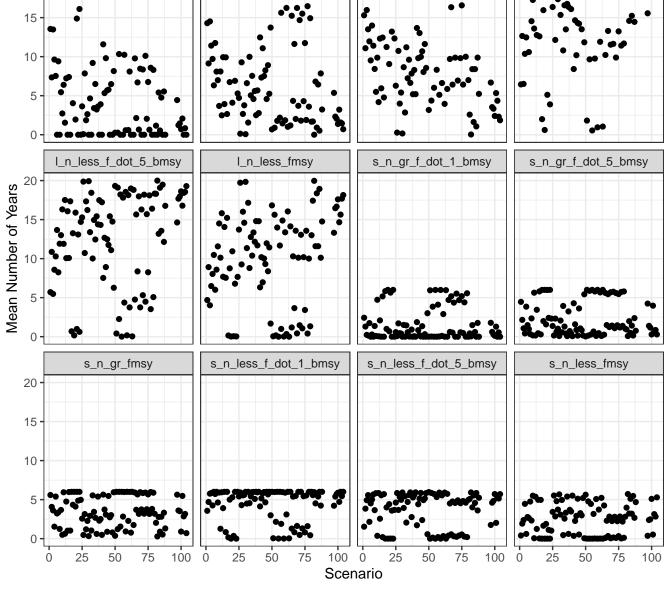


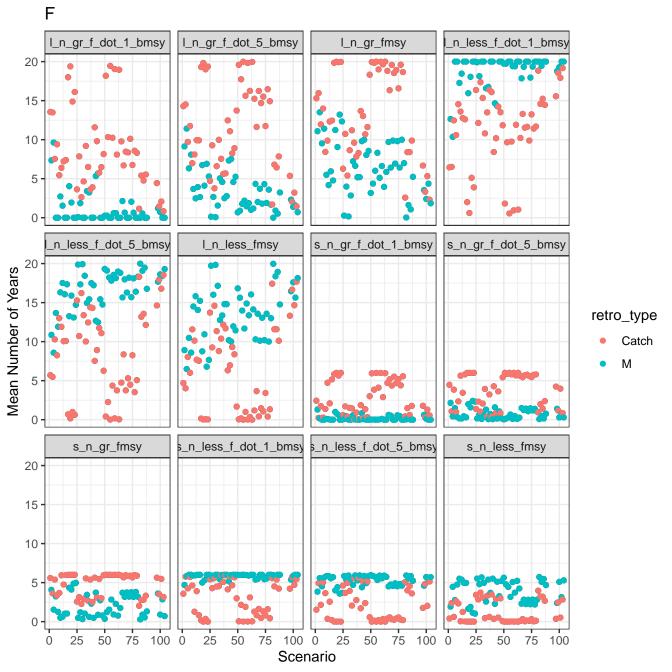


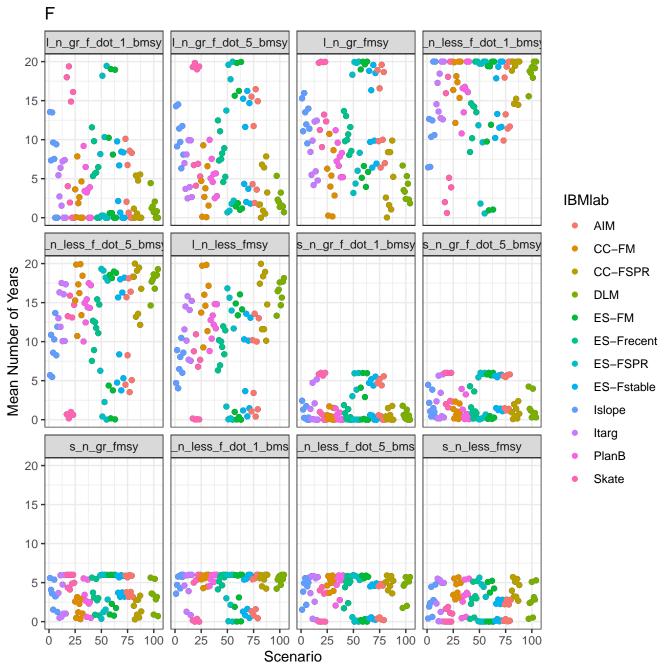


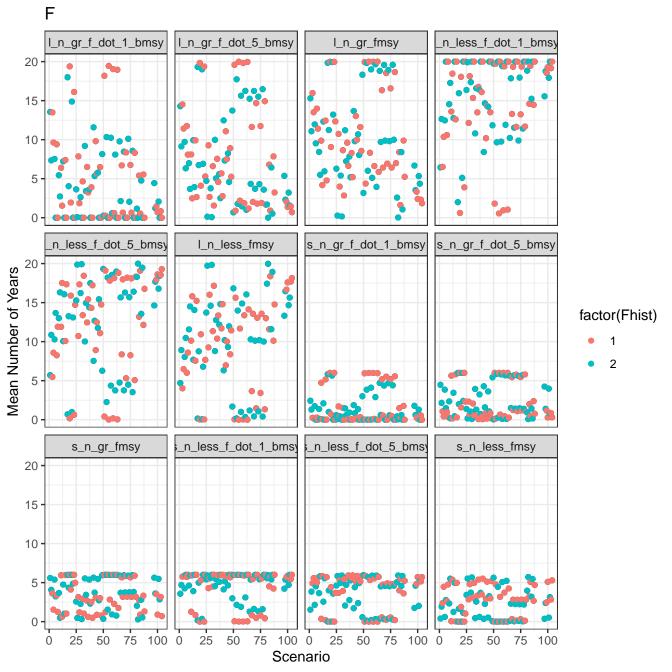


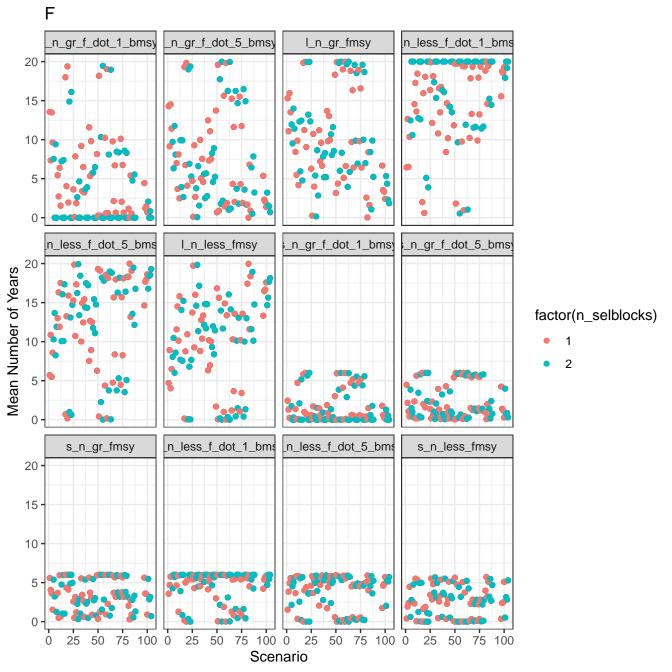
F I\_n\_gr\_f\_dot\_5\_bmsy I\_n\_gr\_f\_dot\_1\_bmsy I\_n\_gr\_fmsy I\_n\_less\_f\_dot\_1\_bmsy 20 5 -I\_n\_less\_f\_dot\_5\_bmsy I\_n\_less\_fmsy s\_n\_gr\_f\_dot\_1\_bmsy s\_n\_gr\_f\_dot\_5\_bmsy 15 -5 s\_n\_gr\_fmsy s\_n\_less\_f\_dot\_1\_bmsy s\_n\_less\_f\_dot\_5\_bmsy s\_n\_less\_fmsy

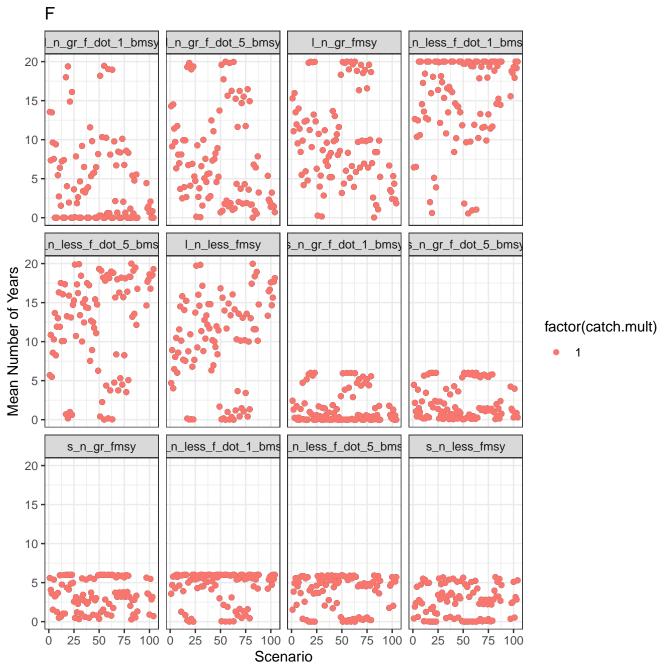


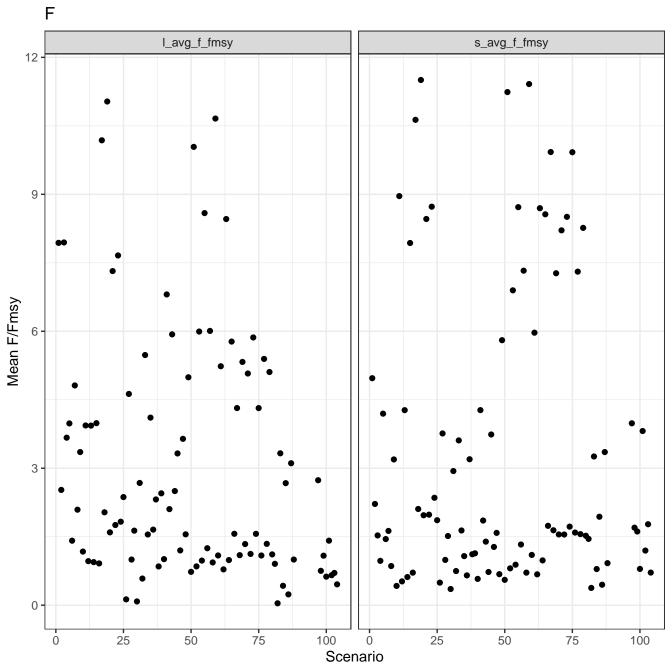


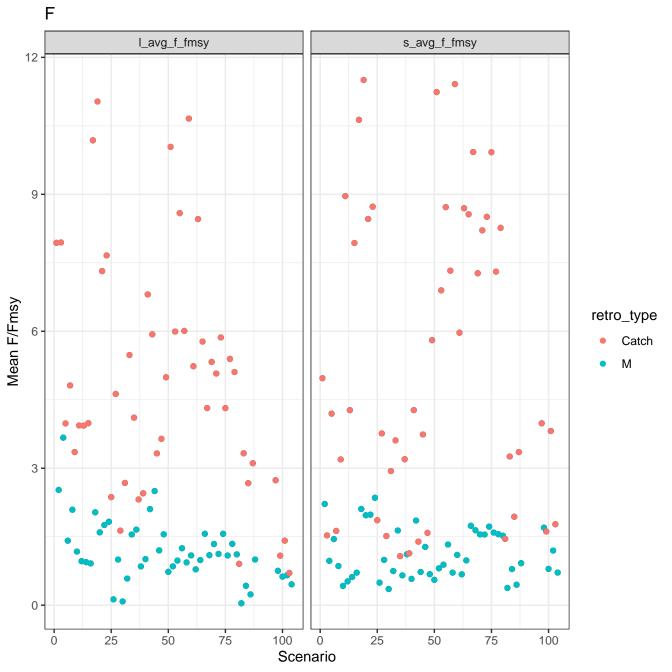


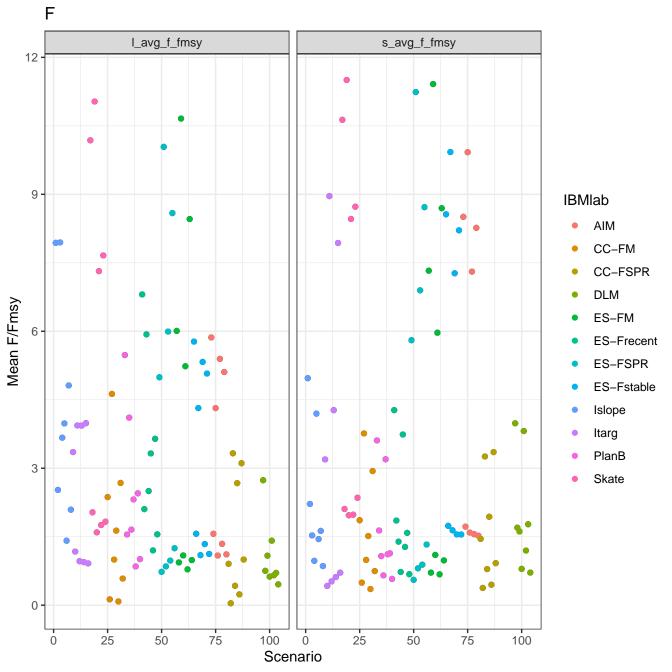


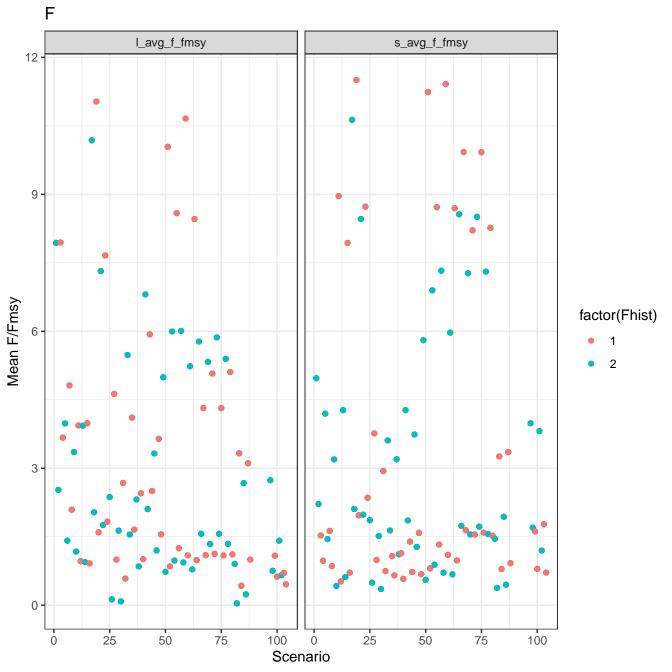


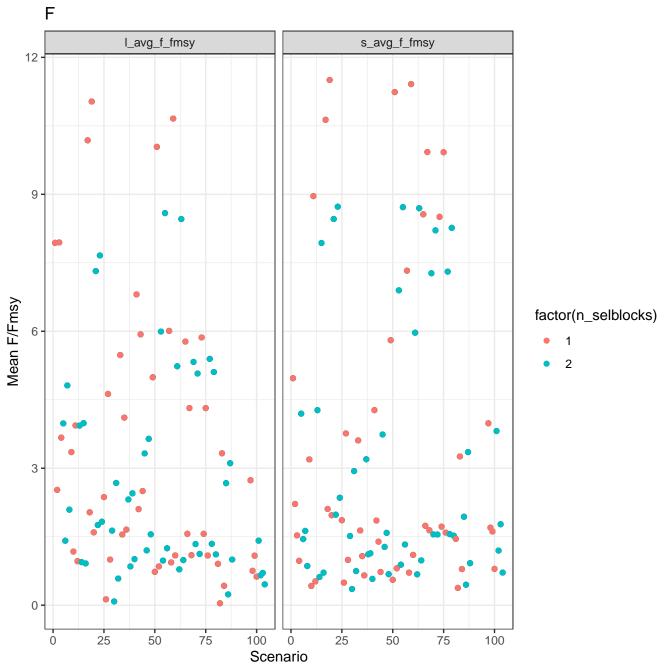


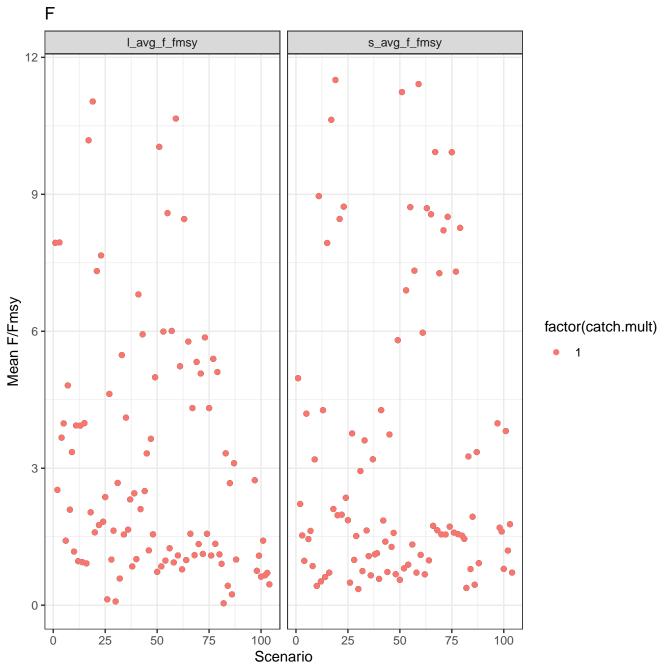


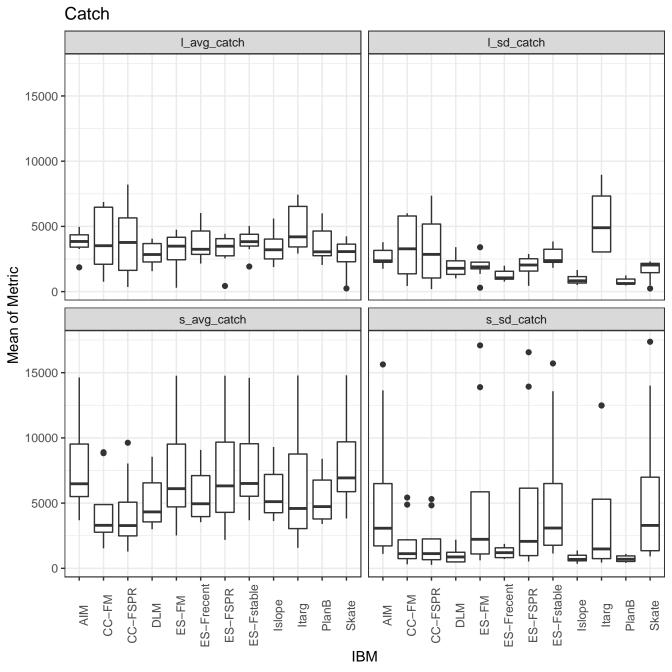


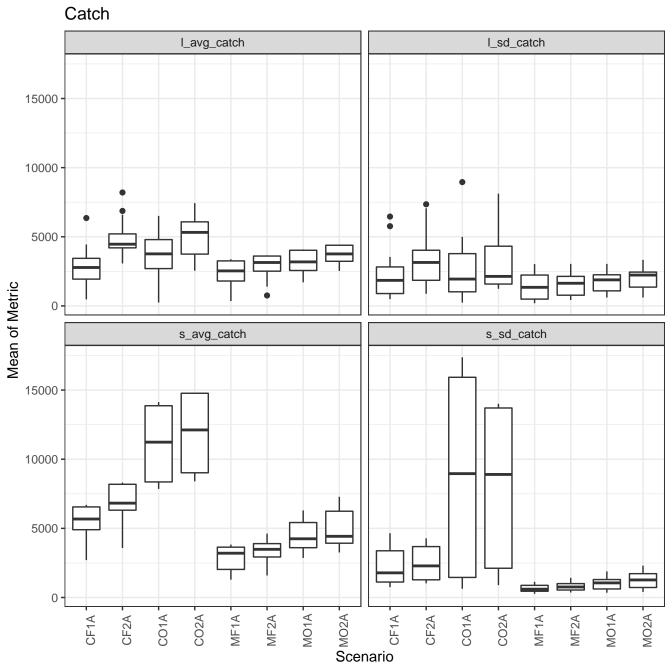


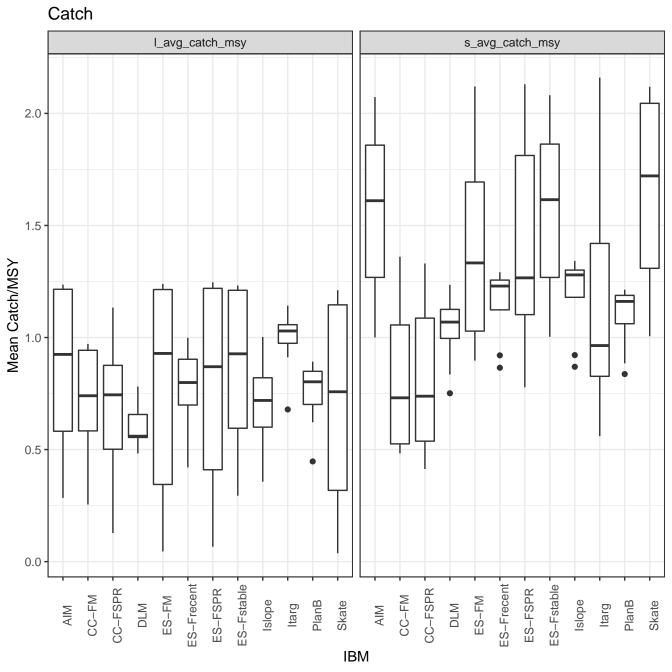




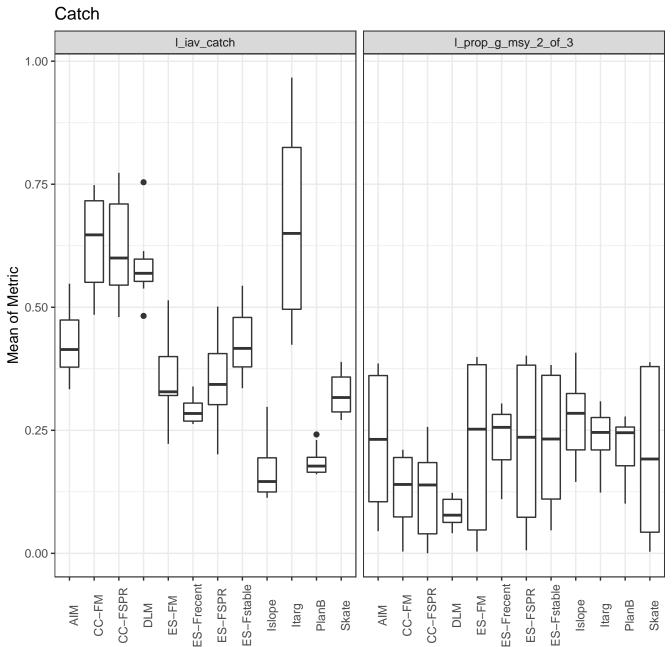




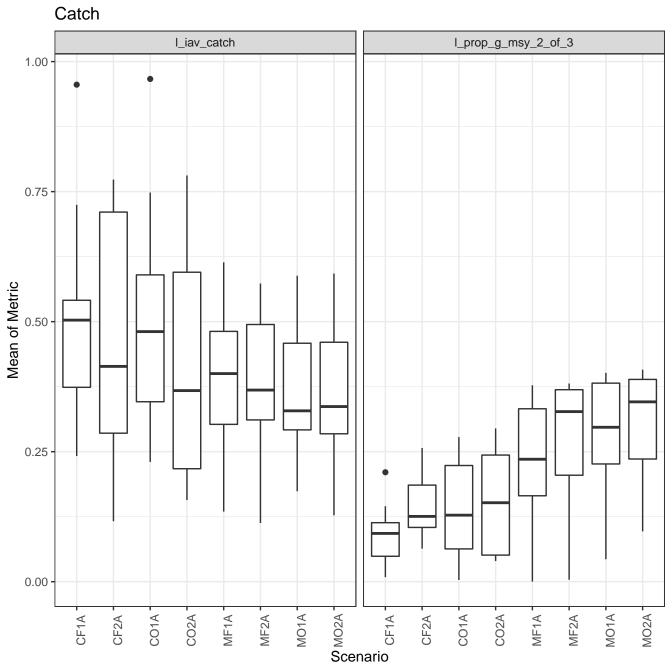


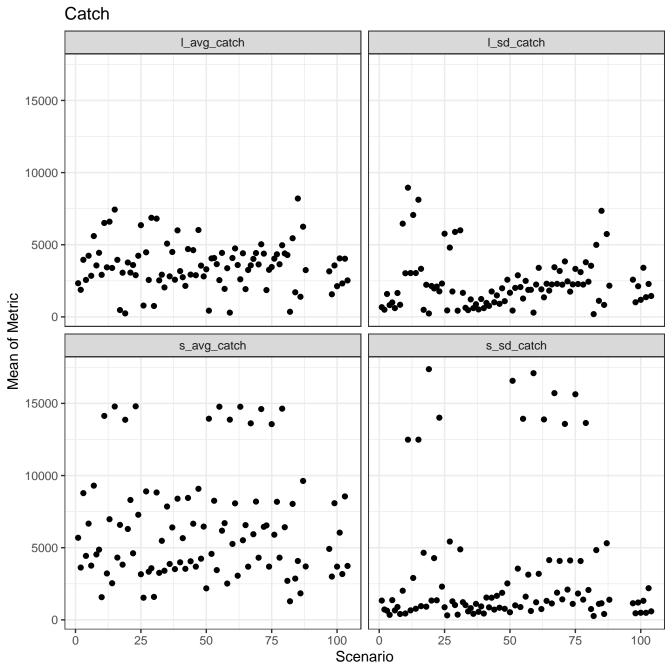


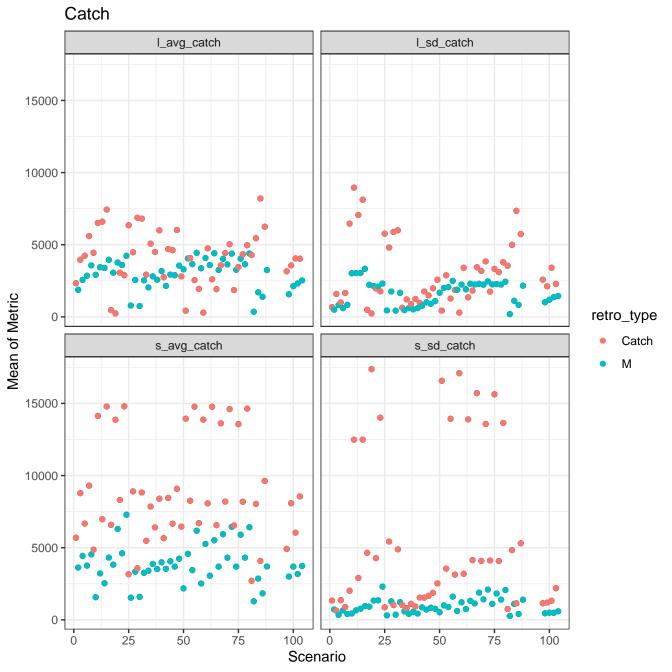
Catch I\_avg\_catch\_msy s\_avg\_catch\_msy 2.0 1.5 Mean Catch/MSY 0.5 0.0 MO2A CF1A MO1A Scenario C02A C01A CO2A MF1A MF2A MO1A CF1A CF2A CO1A MF1A MF2A CF2A



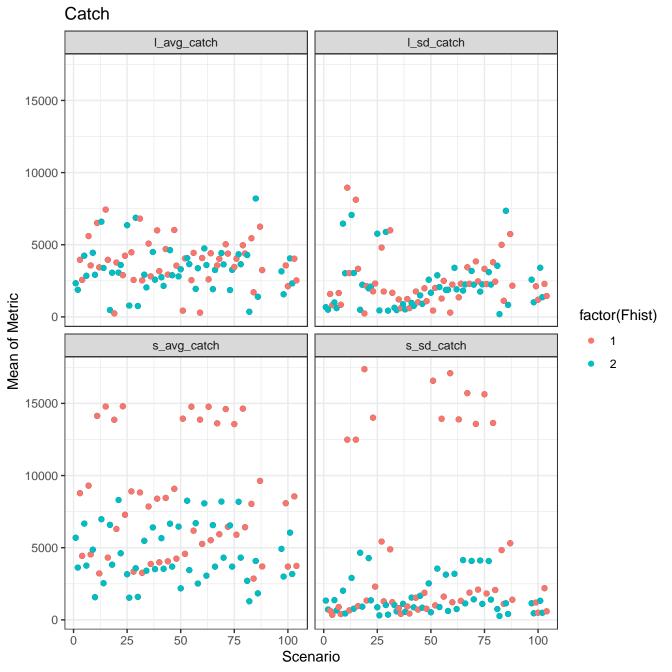
IBM

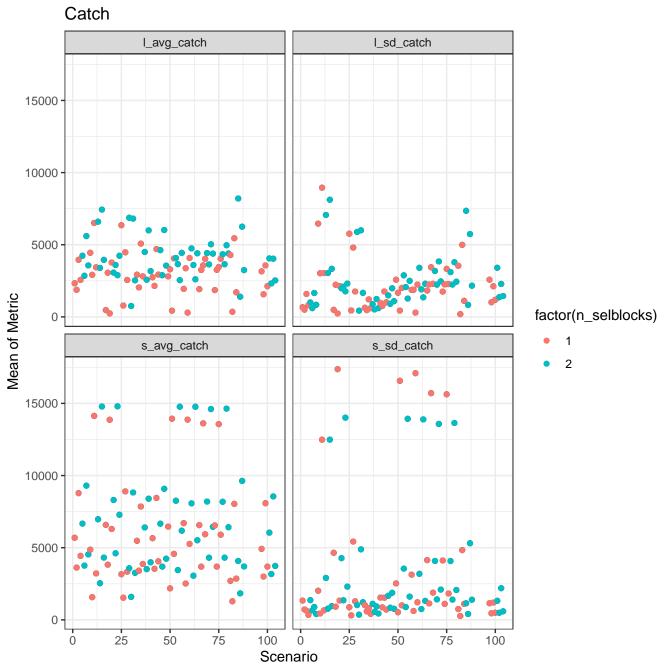


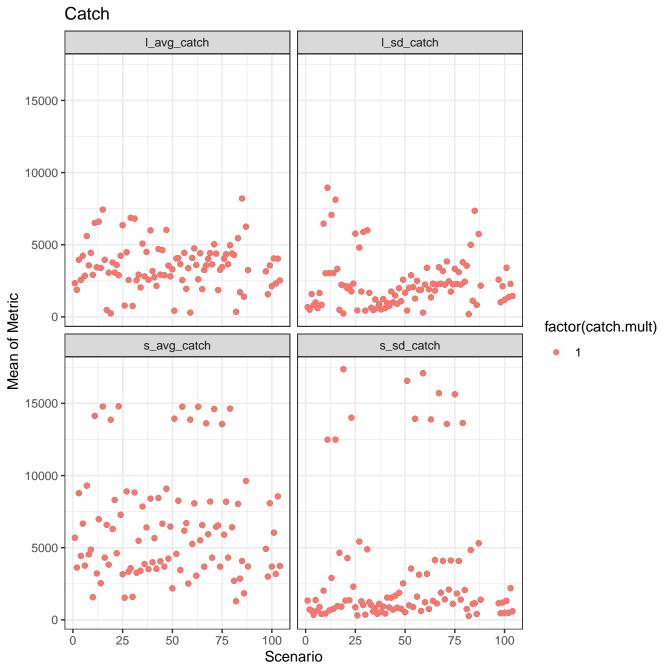




## Catch I\_avg\_catch I\_sd\_catch 15000 -10000 -**IBMlab** AIM 5000 -CC-FM CC-FSPR DLM Mean of Metric 0 ES-FM ES-Frecent s\_sd\_catch s\_avg\_catch ES-FSPR ES-Fstable 15000 -Islope Itarg PlanB 10000 -Skate 5000 0 50 25 75 25 100 50 75 Ö 100 Scenario



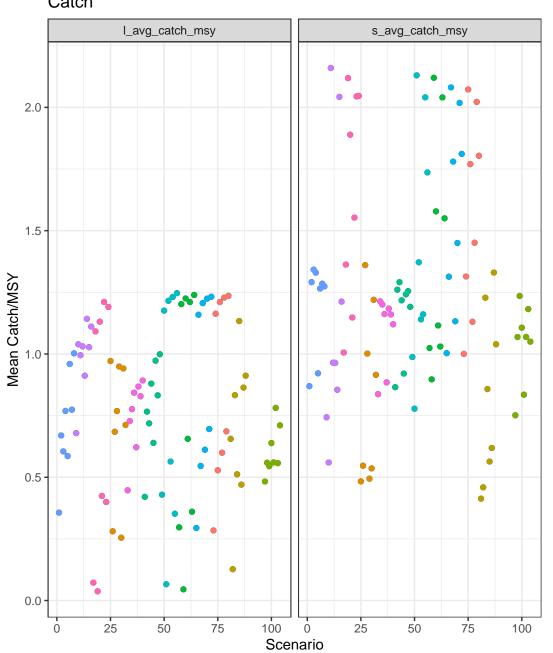




Catch I\_avg\_catch\_msy s\_avg\_catch\_msy 2.0 1.5 -Mean Catch/MSY 0.5 0.0 -0 25 50 75 100 0 Scenario 25 50 75 100

Catch I\_avg\_catch\_msy s\_avg\_catch\_msy 2.0 1.5 -Mean Catch/MSY retro\_type Catch Μ 0.5 0.0 -75 25 25 50 100 0 Scenario 50 75 100

## Catch



## IBMlab

- AIM
- CC-FM CC-FSPR
- DLM
- DLIVI
- ES-FM
- ES-Frecent

ES-FSPR

- ES–Fstable
- Islope
- 18
- Itarg
  PlanB
- **O**1 4
- Skate

Catch I\_avg\_catch\_msy s\_avg\_catch\_msy 2.0 1.5 -Mean Catch/MSY factor(Fhist) 2 0.5 0.0 -100 0 Scenario 25 75 25 50 75 50 100

Catch I\_avg\_catch\_msy s\_avg\_catch\_msy 2.0 1.5 -Mean Catch/MSY factor(n\_selblocks) 2 0.5 0.0 75 25 50 0 25 50 75 100 100 Scenario

Catch I\_avg\_catch\_msy s\_avg\_catch\_msy 2.0 1.5 -Mean Catch/MSY factor(catch.mult) 0.5 0.0 -25 50 75 25 75 100 Ö 50 100 Scenario

Catch I\_iav\_catch I\_prop\_g\_msy\_2\_of\_3 1.00 -0.75 -Mean of Metric 0.50 -0.25 -0.00 -

> 100 0 Scenario

25

Ö

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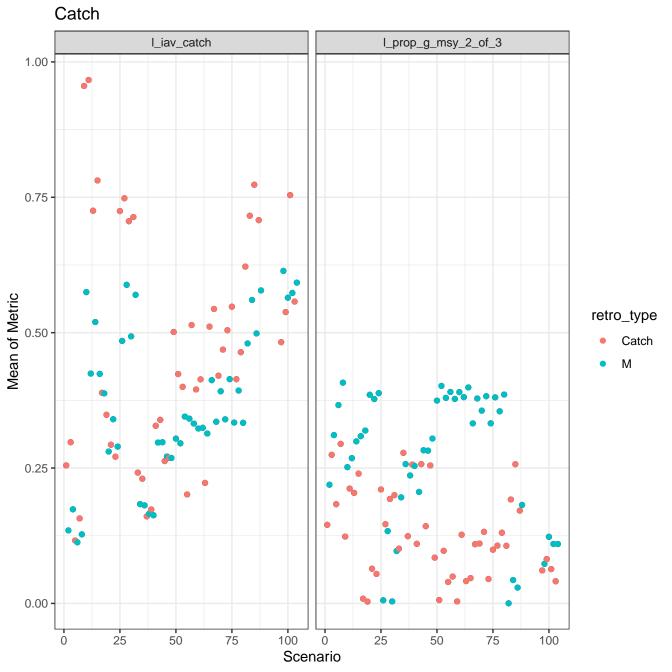
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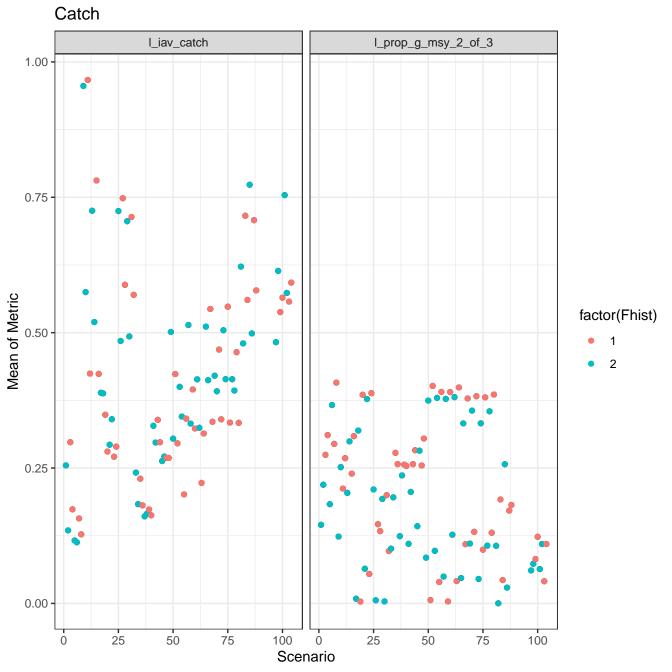
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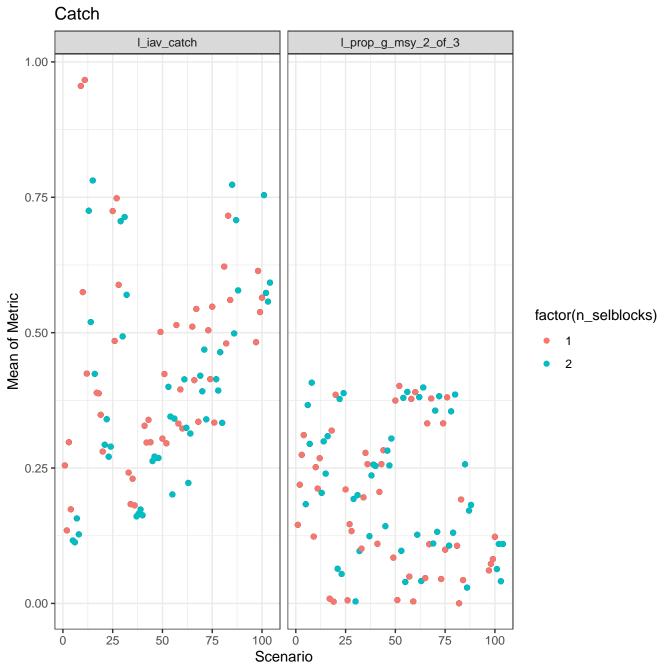
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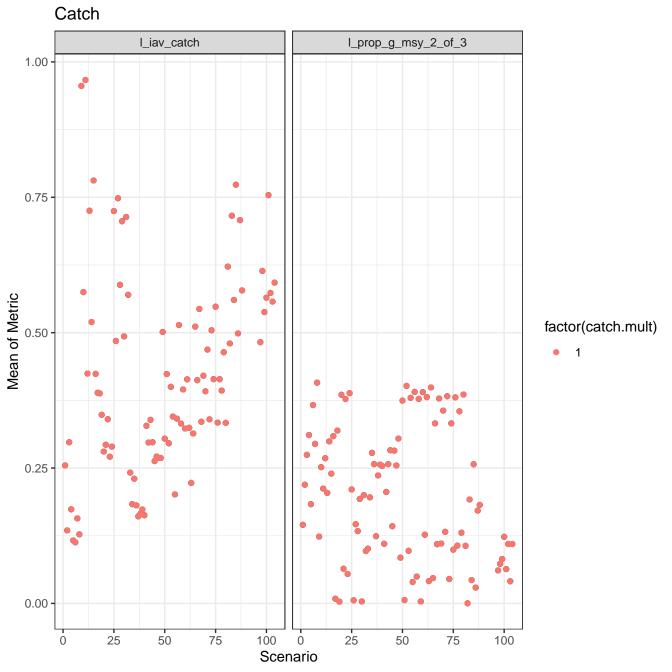


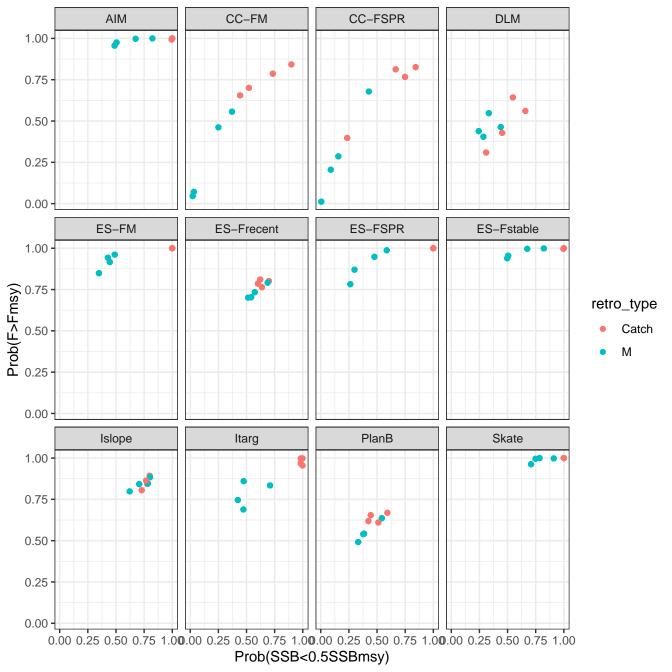
Catch I\_iav\_catch I\_prop\_g\_msy\_2\_of\_3 1.00 -0.75 -**IBMlab** AIM CC-FM CC-FSPR DLM Mean of Metric ES-FM 0.50 ES-Frecent ES-FSPR ES-Fstable Islope Itarg PlanB 0.25 -Skate 0.00 -25 50 75 0 75 25 50 100 100 0

Scenario









CF1A Long Term AIM CC-FM CC-FSPR DLM 2 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY Islope PlanB Skate Itarg 5 10 10 10 5 10 SSB/SSBmsy

MF1A Long Term AIM CC-FM CC-FSPR DLM 4 2 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY 2 Islope PlanB Skate Itarg 10 5 10 10 5 10 SSB/SSBmsy

CO1A Long Term AIM CC-FM CC-FSPR DLM 4 2 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY Islope PlanB Itarg Skate 4 5 10 10 10 5 5 10

SSB/SSBmsy

MO1A Long Term AIM CC-FM CC-FSPR DLM 4 2 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY 2 Islope PlanB Skate Itarg 4 10 5 10 10 10 5 SSB/SSBmsy

CF2A Long Term AIM CC-FM CC-FSPR DLM 4 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY 2 Islope PlanB Skate Itarg 10 5 10 10 5 10

SSB/SSBmsy

MF2A Long Term AIM CC-FM CC-FSPR DLM 4 2 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY 2 Islope PlanB Skate Itarg 4 2 5 10 10 10 10 5 5 SSB/SSBmsy

CO2A Long Term AIM CC-FM CC-FSPR DLM 4 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY Islope PlanB Itarg Skate

10

5

10

SSB/SSBmsy

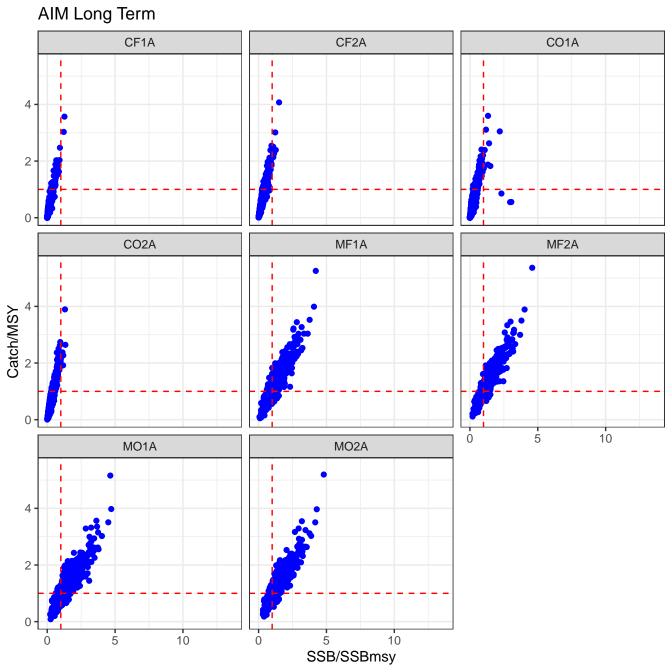
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MO2A Long Term AIM CC-FM CC-FSPR DLM 4 2 ES-FM ES-Frecent ES-FSPR ES-Fstable Catch/MSY 2 Islope PlanB Skate Itarg 4 10 5 10 10 10 5 SSB/SSBmsy

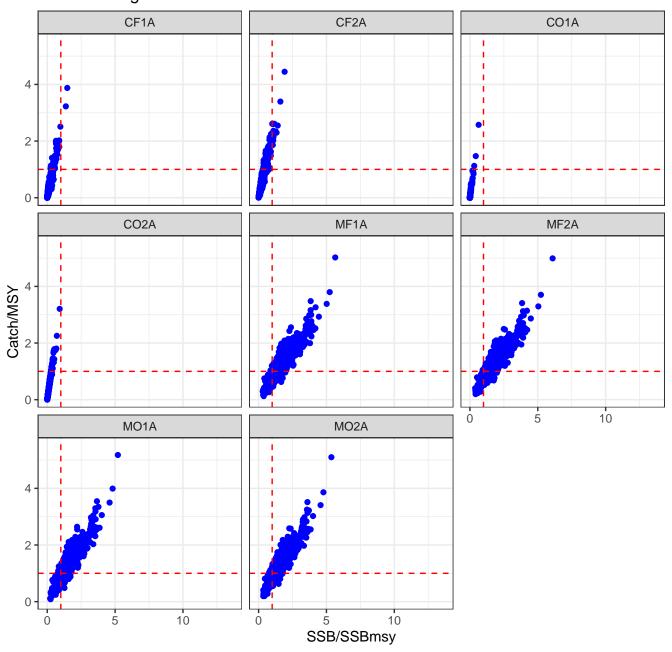


CC-FM Long Term CF1A CF2A CO1A 4 2 CO2A MF1A MF2A Catch/MSY 5 10 MO1A MO2A 4 2. 10 5 5 SSB/SSBmsy 10

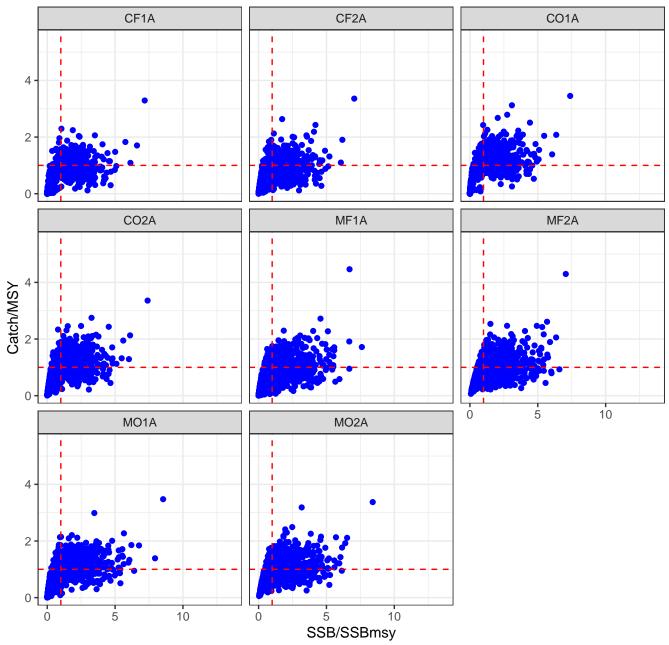
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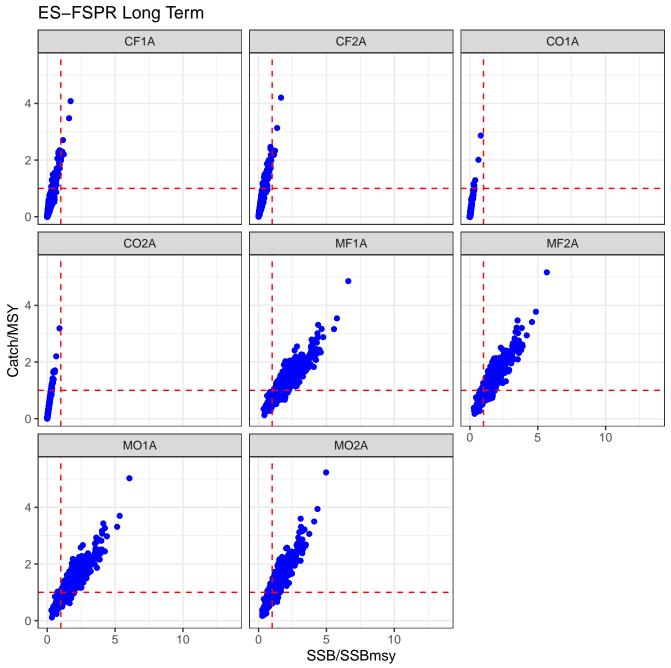
**DLM Long Term** CF1A CF2A CO1A 4 2 CO2A MF1A MF2A Catch/MSY 10 5 MO1A MO2A 2. 5 10 10 SSB/SSBmsy

ES-FM Long Term

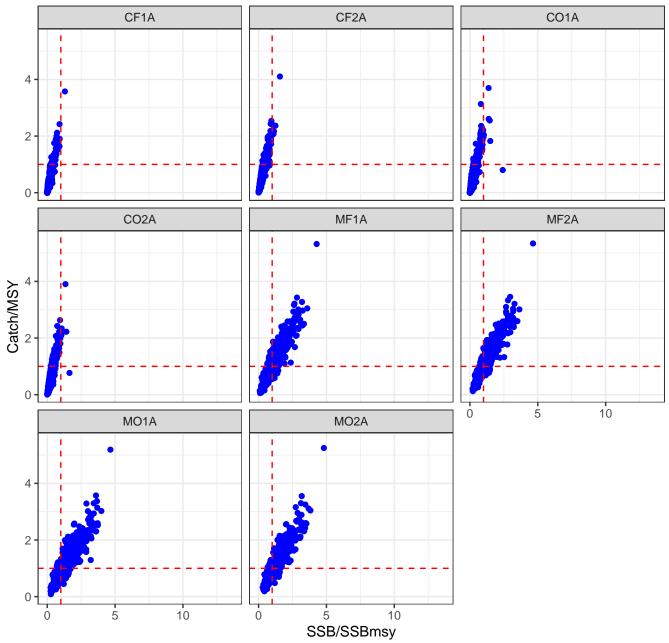


ES-Frecent Long Term



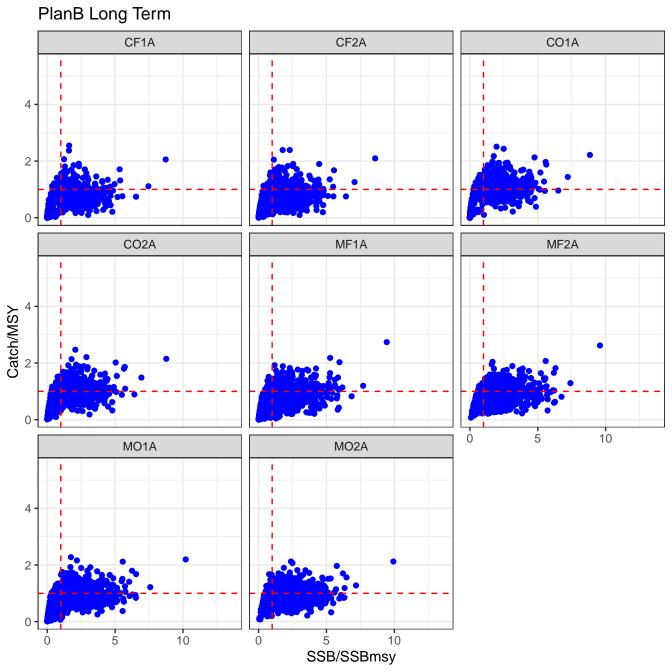


ES-Fstable Long Term



Islope Long Term CF1A CF2A CO1A 4 2 CO2A MF1A MF2A Catch/MSY 10 5 MO1A MO2A 4 2 10 5 10 SSB/SSBmsy 10

Itarg Long Term CF1A CF2A CO1A 4 2 CO2A MF1A MF2A Catch/MSY 10 5 MO1A MO2A 4 2. 5 10 SSB/SSBmsy 10



Skate Long Term CF1A CF2A CO1A 4 2. CO2A MF2A MF1A Catch/MSY 10 0 5 MO1A MO2A 4 2 -5 10 10 5 SSB/SSBmsy