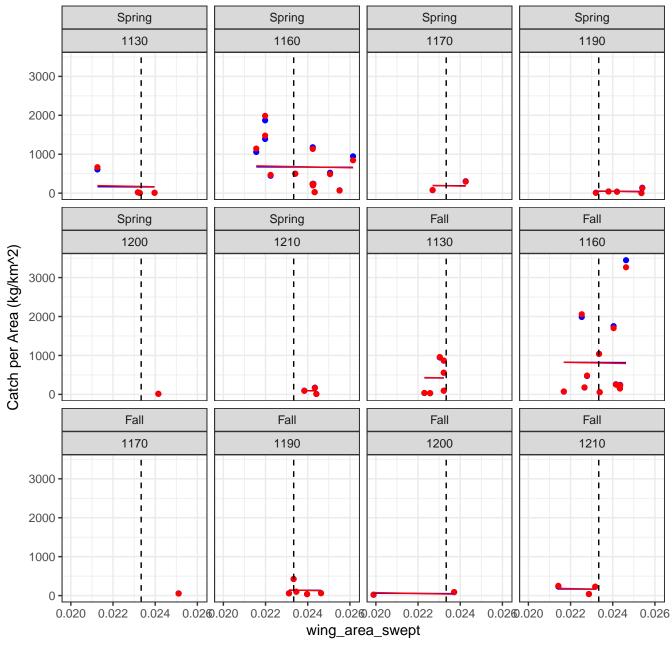
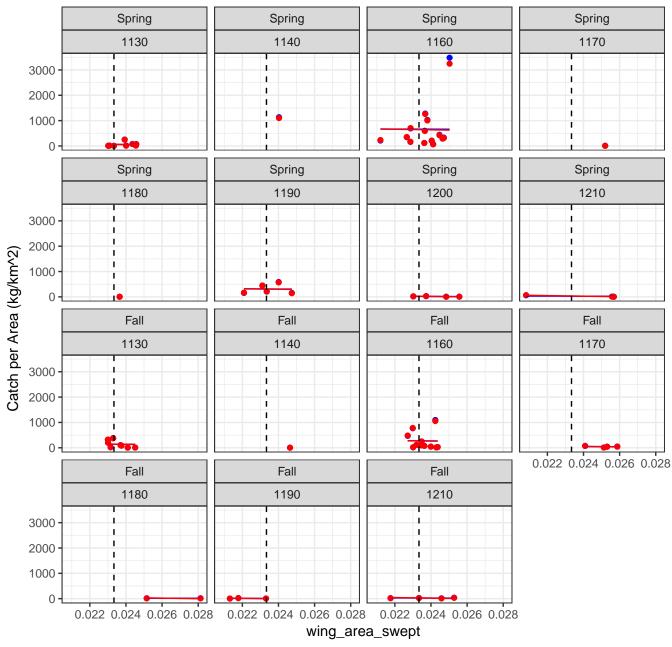
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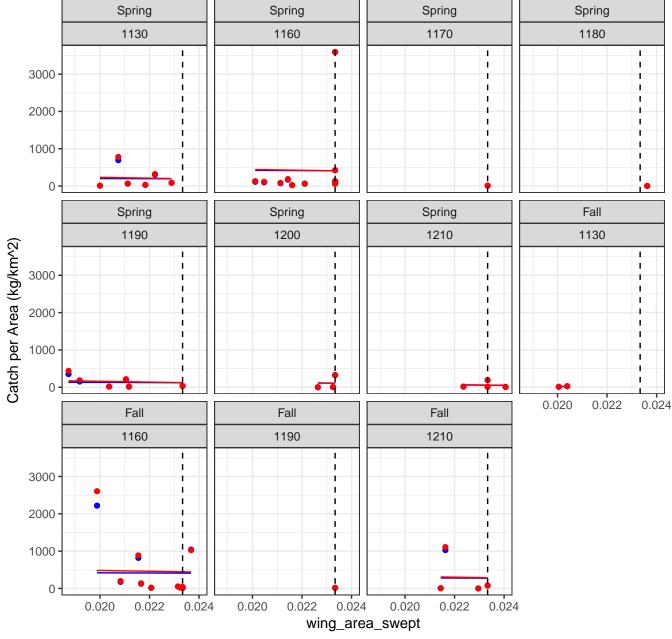


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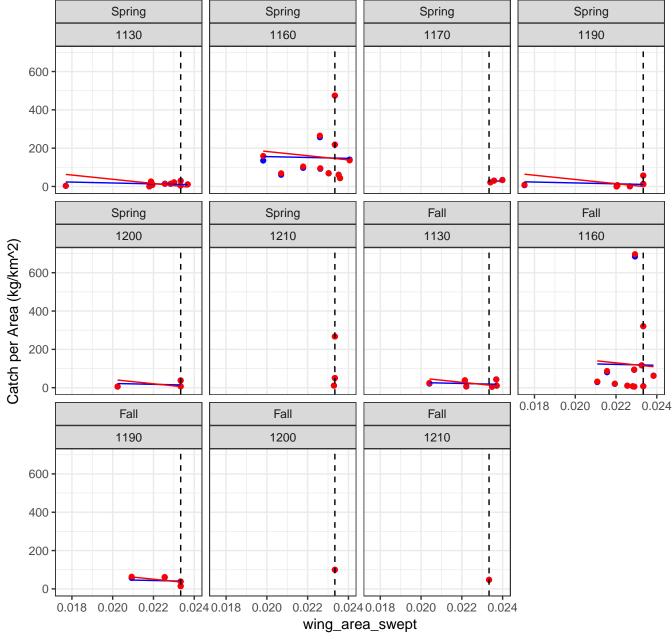


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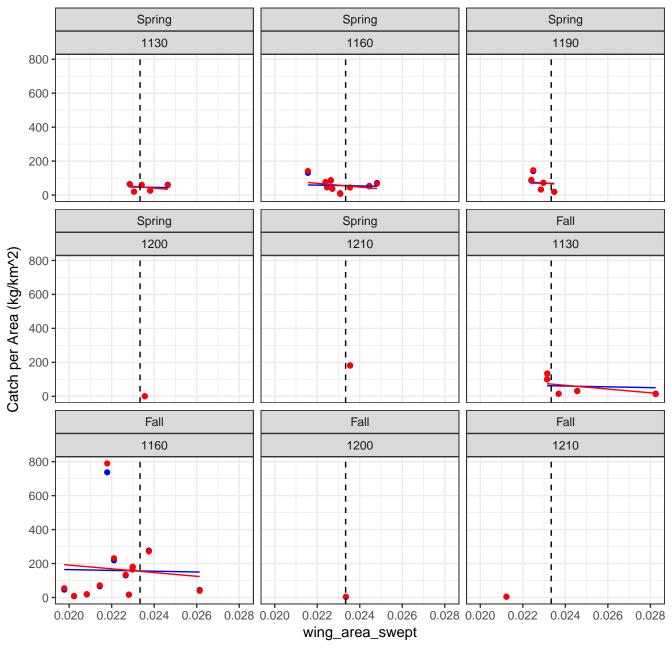
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GBYT 2013 Case 2 (Without Zeros, With Fills) Winner = Standard



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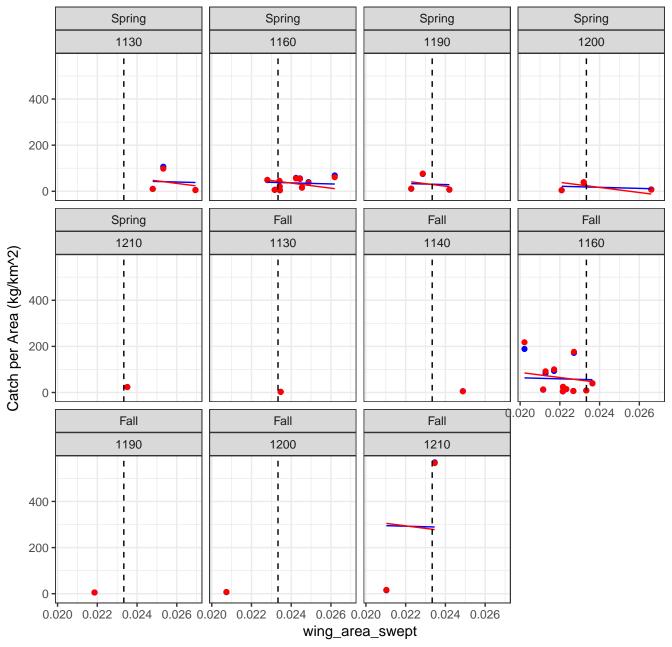


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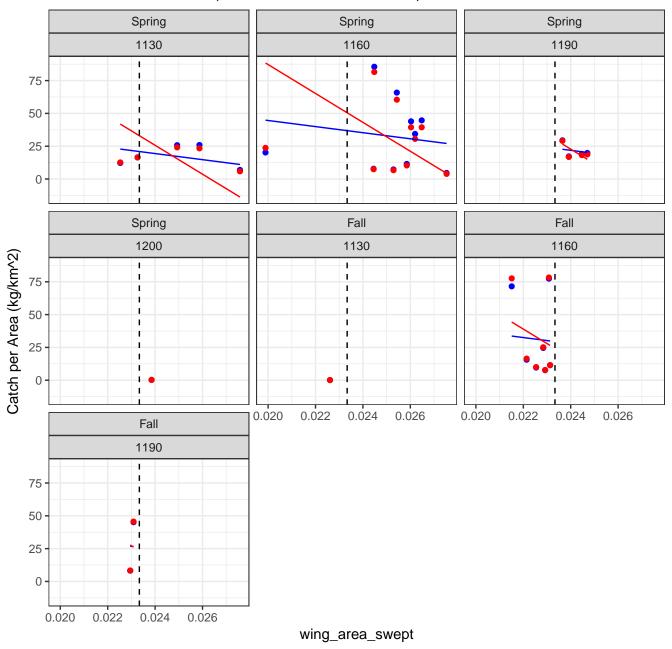
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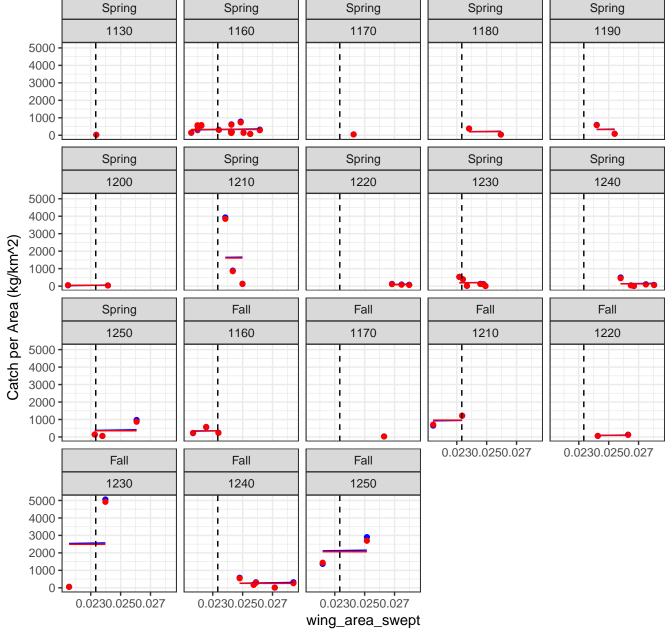
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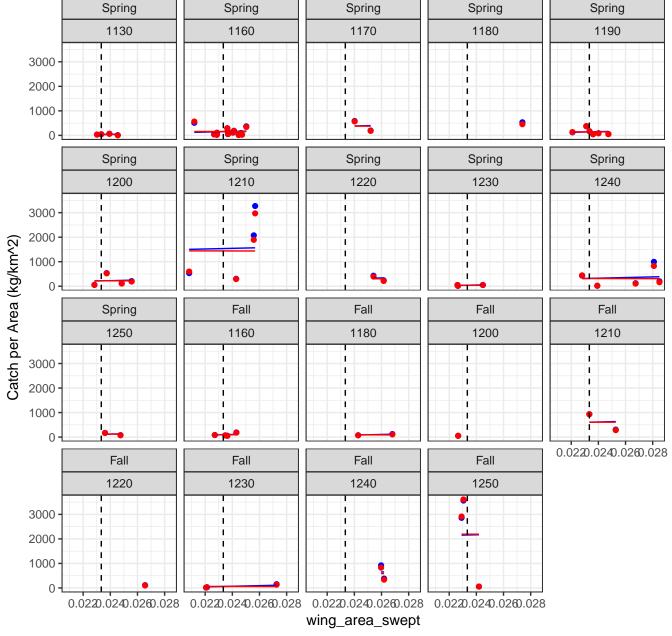
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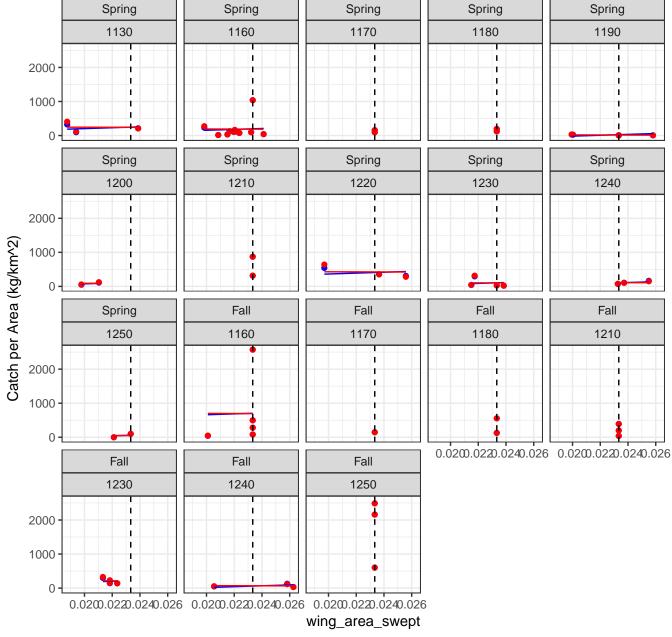
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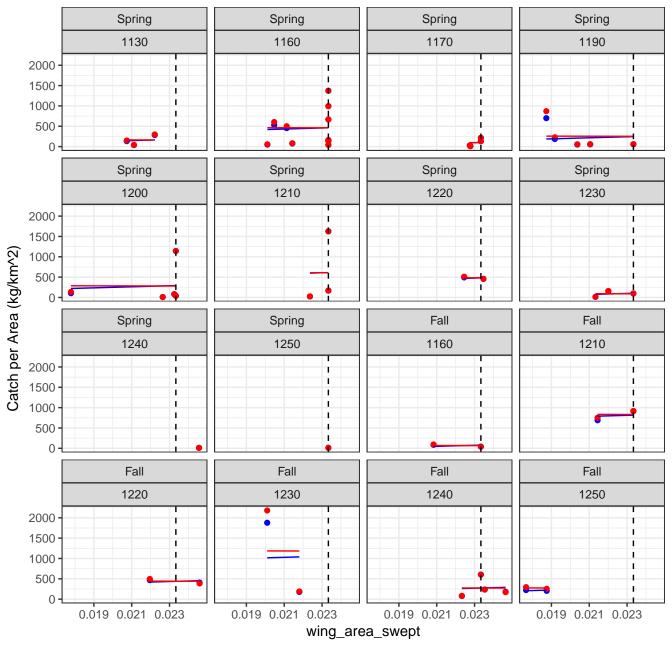
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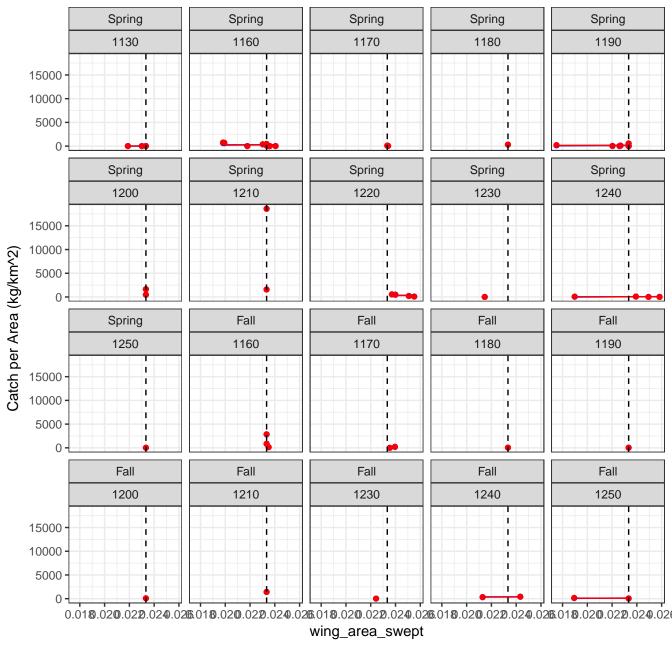
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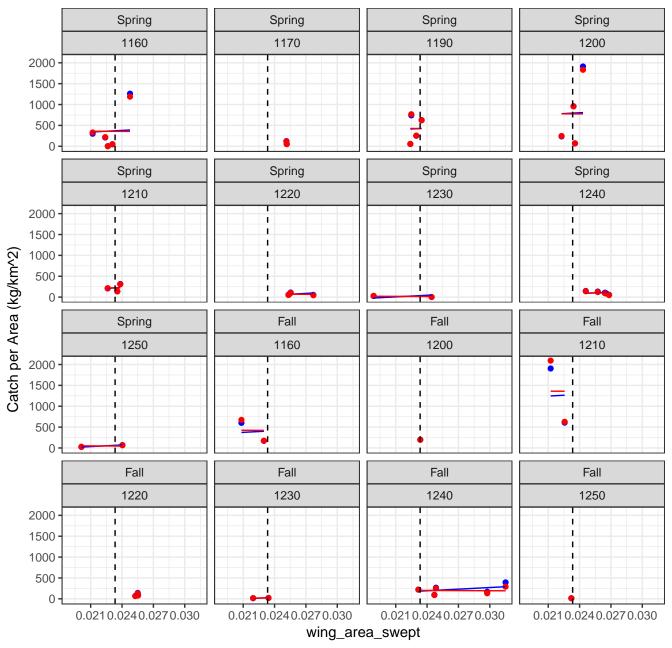
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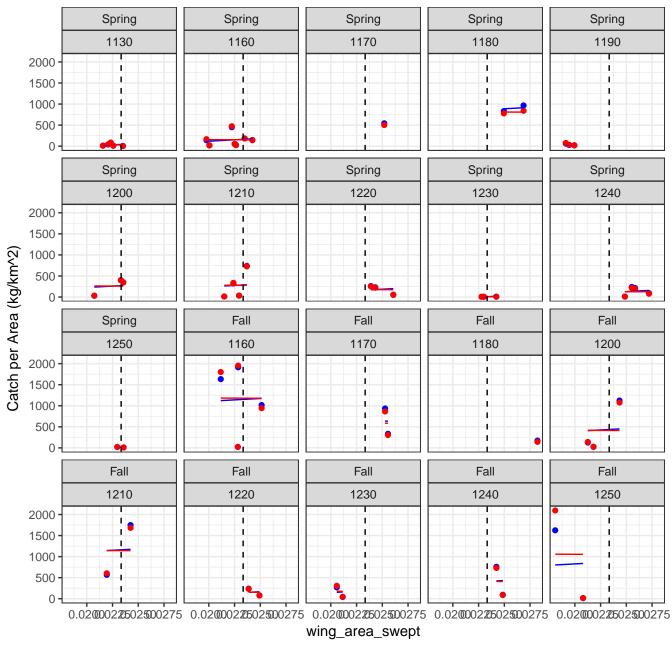
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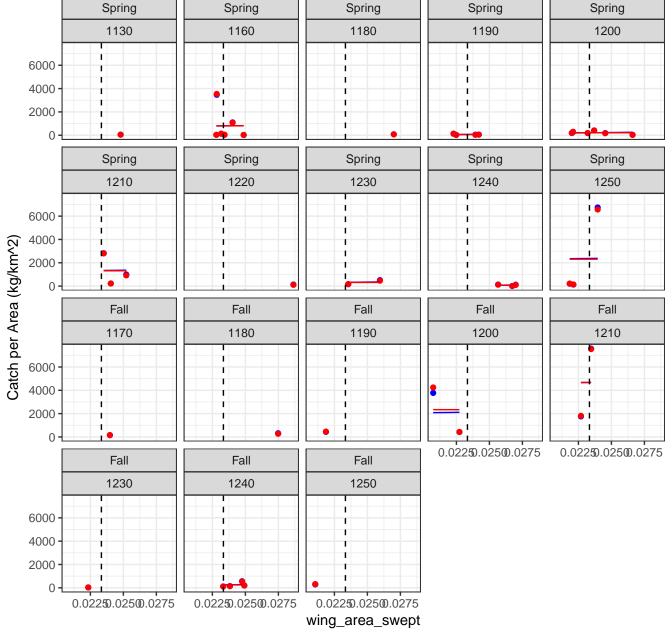
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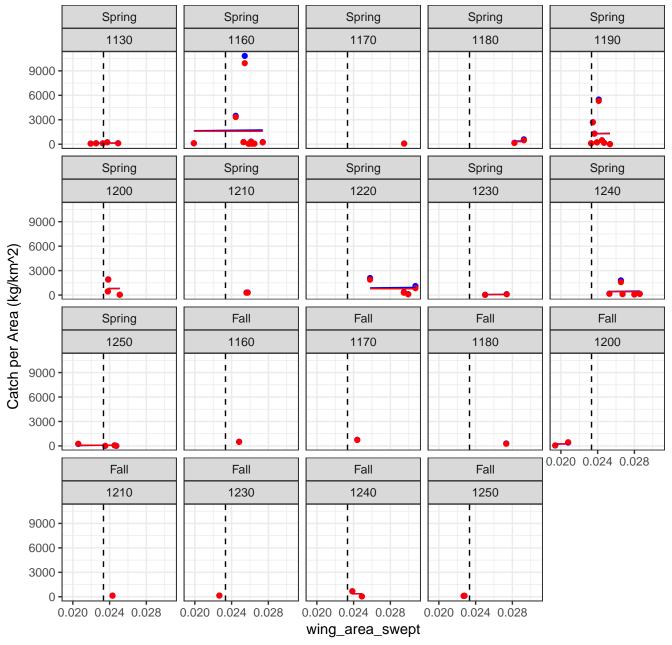
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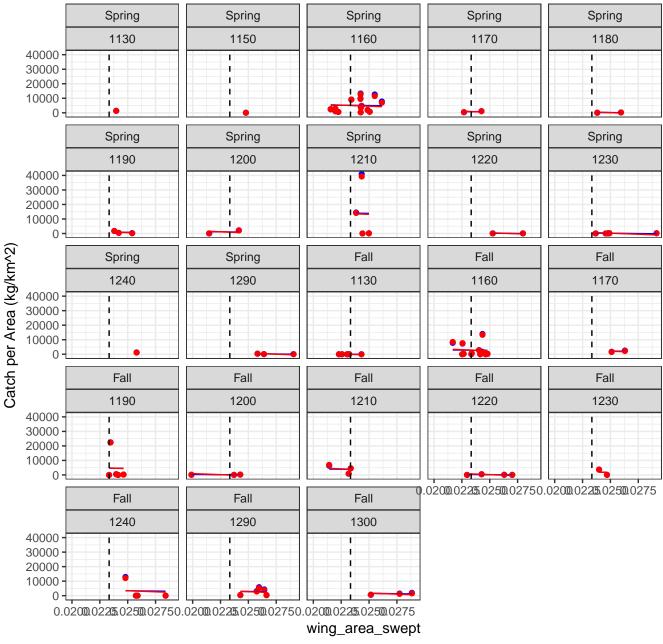
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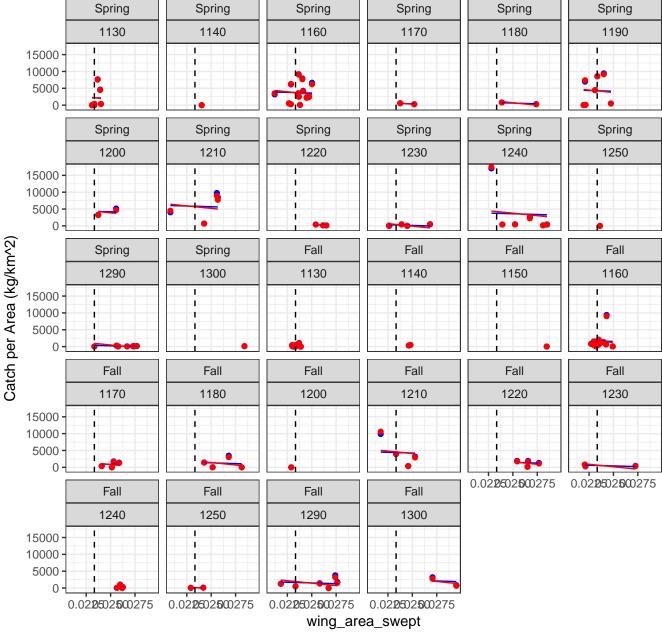
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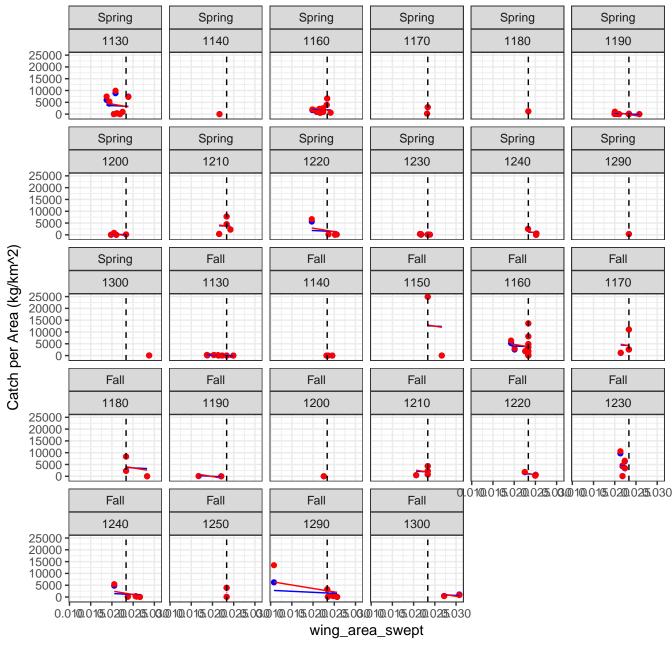
GBhaddock 2009 Case 2 (Without Zeros, With Fills) Winner = Standard



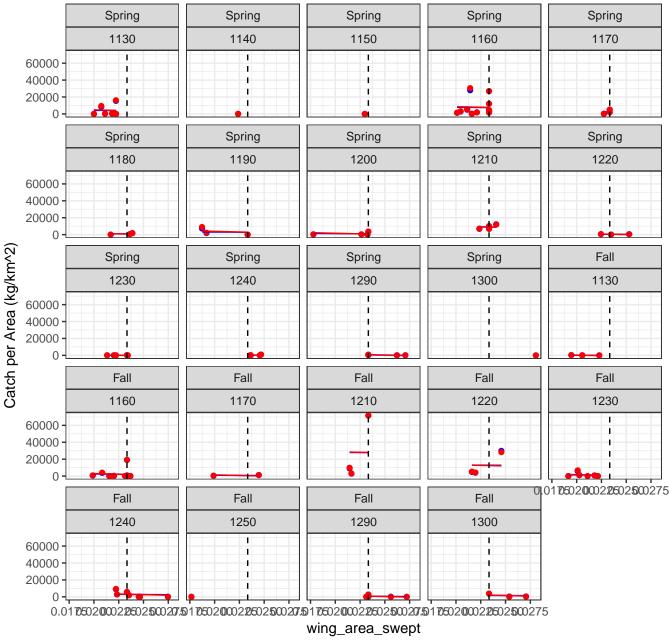
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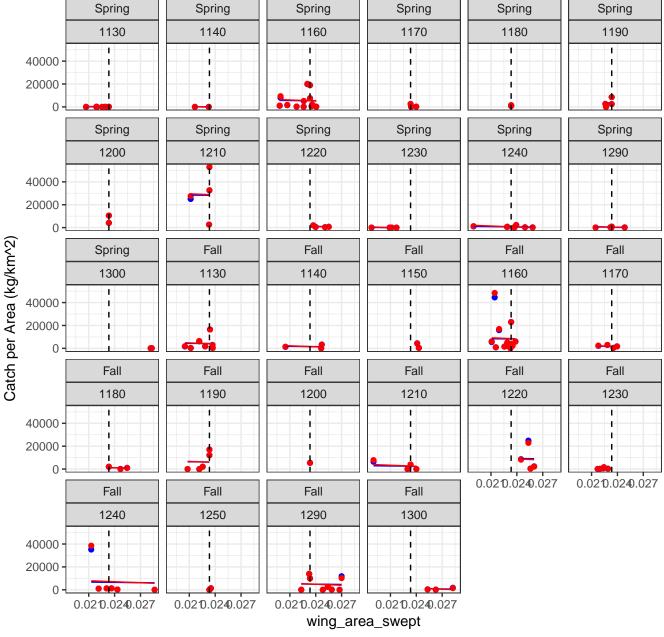
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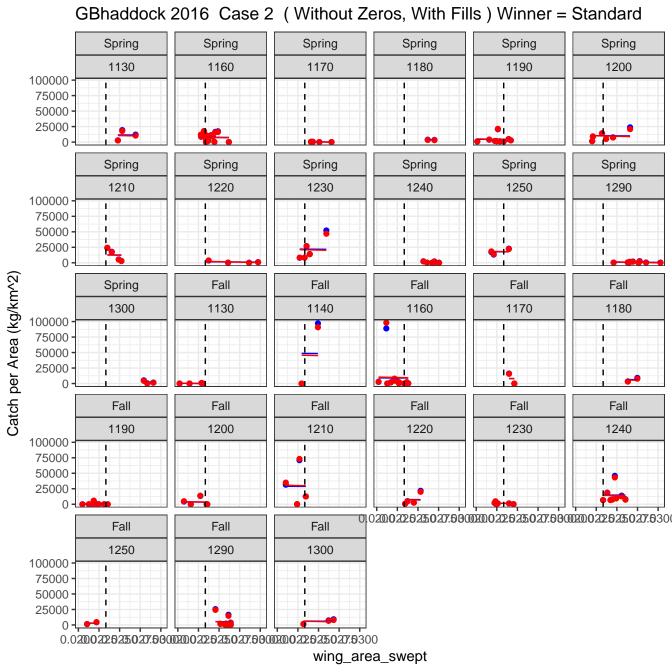


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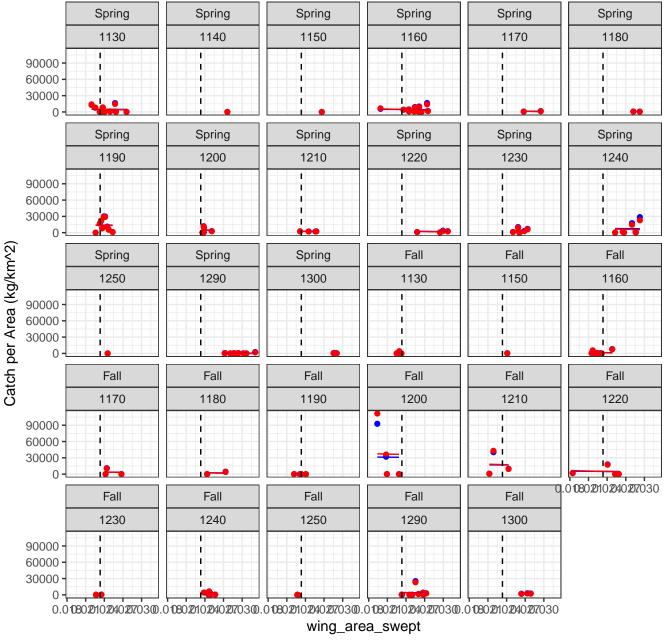


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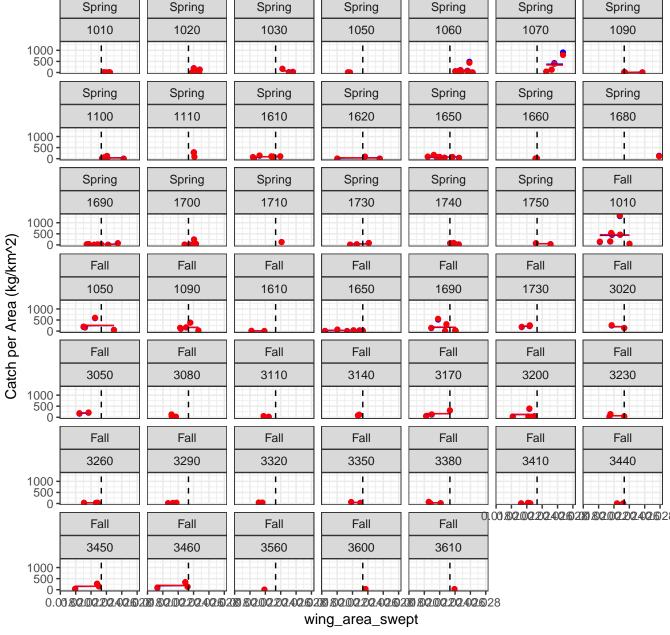
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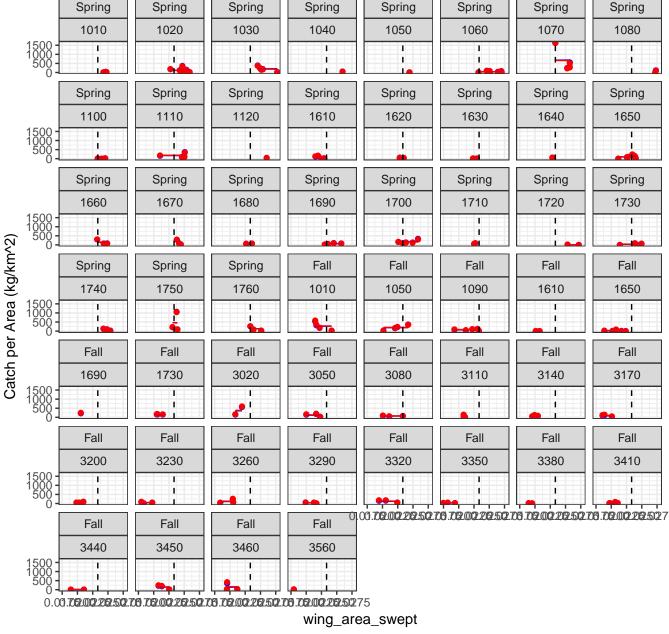
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Fluke 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread

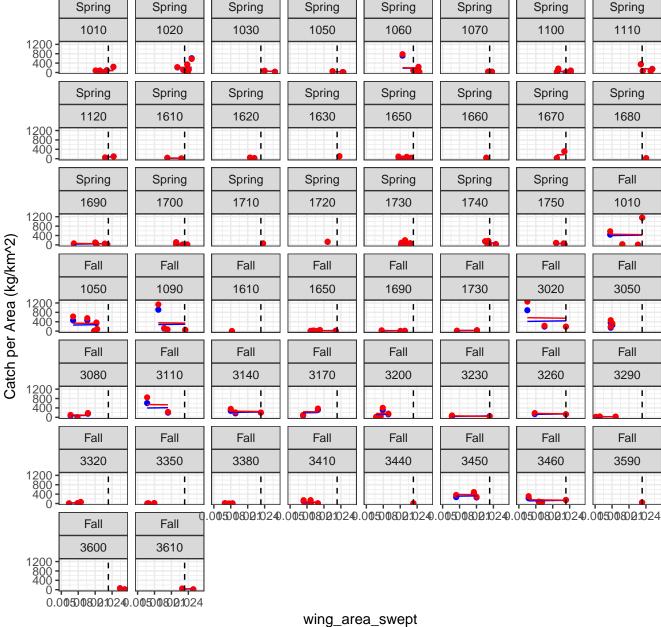


Fluke 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Fluke 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring 1010 1020 1030 1050 1060 1070 1100 Spring Spring Spring Spring Spring Spring Spring 1110 1610 1620 1630 1650 1660 1670 Spring Spring Spring Spring Spring Spring Spring 1680 1690 1700 1710 1720 1730 1740 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall Fall Fall 1750 1010 1050 1090 1610 1650 1690 Fall Fall Fall Fall Fall Fall Fall 1730 3020 3050 3080 3110 3140 3170 Fall Fall Fall Fall Fall Fall Fall 3200 3230 3260 3290 3320 3350 3380 0.0200.0250.03 Fall Fall Fall Fall Fall Fall 3410 3440 3450 3460 3590 3600 $0.0200.0250.030\ 0.0200.0250.030\ 0.0200.0250.030\ 0.0200.0250.030\ 0.0200.0250.030\ 0.0200.0250.030$ wing_area_swept

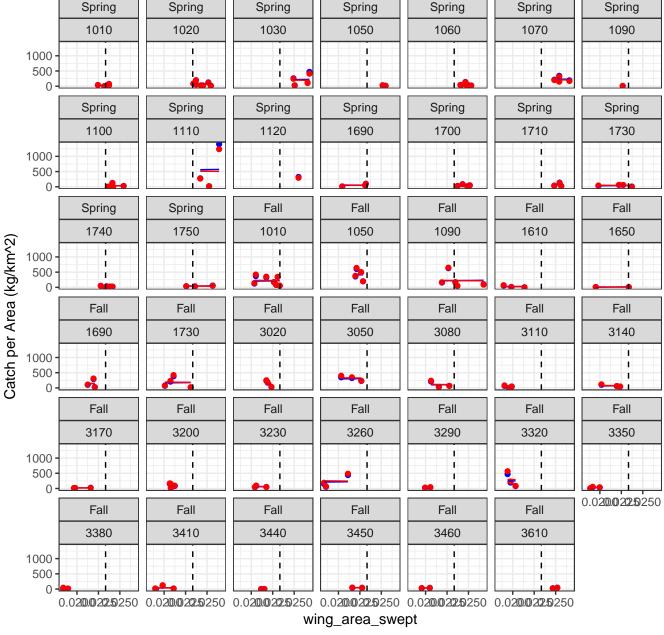
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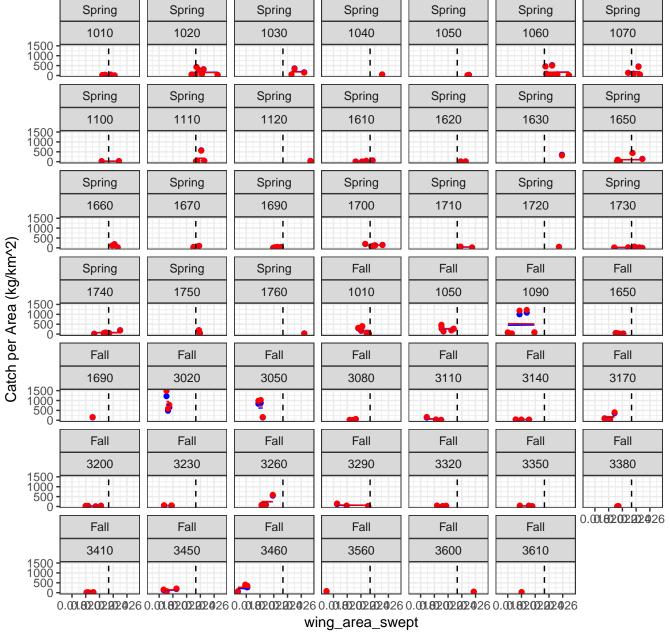
Fluke 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring Spring 1040 1010 1020 1030 1050 1060 1070 1090 1000 250 250 250 Spring Spring Spring Spring Spring Spring Spring Spring 1120 1610 1640 1100 1110 1620 1630 1650 1000 750 500 250 ١ Spring Spring Spring Spring Spring Spring Spring Spring 1660 1670 1680 1690 1700 1710 1720 1730 T Catch per Area (kg/km^2) Spring Spring Spring Fall Fall Fall Fall Fall 1650 1740 1750 1760 1010 1050 1090 1690 000 Z50 250 250 Fall Fall Fall Fall Fall Fall Fall Fall 3020 3050 3080 3110 3140 3170 3200 3230 Fall Fall Fall Fall Fall Fall Fall Fall 3320 3450 3260 3290 3350 3380 3410 3460 D.0**05082**:0240.0**05082:**0240.0**05082:**0240.0**05082:**0240.0**050** Fall Fall Fall 3560 3590 3610 1000 750 500 250 0.0050802.0240.0050802.0240.00500802.024 wing_area_swept

Fluke 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread

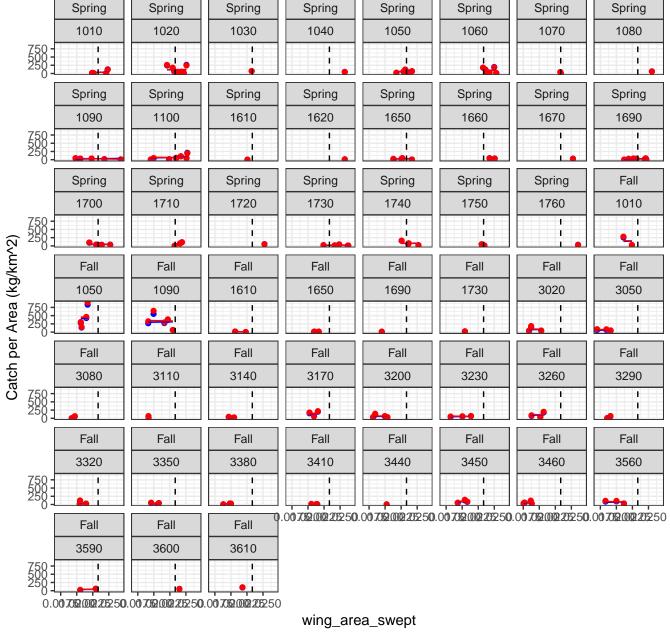
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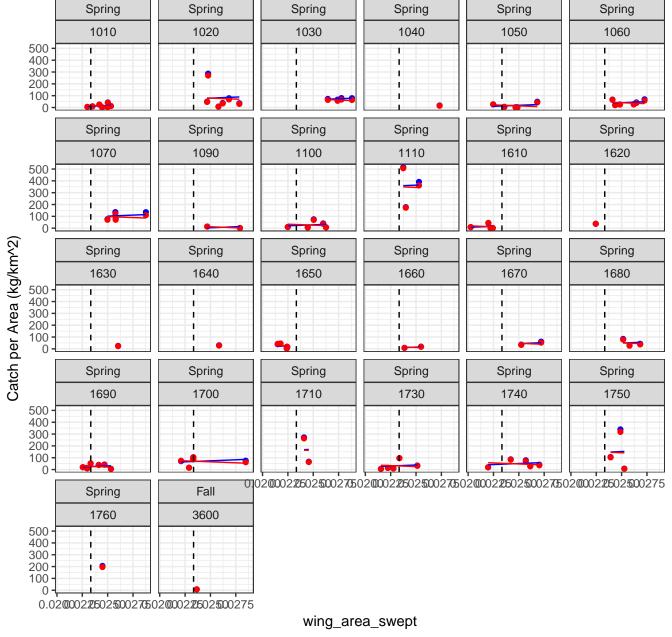
Fluke 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Fluke 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Fluke 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Herring 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring 1010 1020 1030 1050 1060 1090 1100 1130 **25000 1** 1 1 Spring Spring Spring Spring Spring Spring Spring Spring 1160 1170 1190 1200 1210 1220 1230 1240 **25000** Spring Spring Spring Spring Spring Spring Spring Spring 1250 1260 1270 1280 1290 1300 1360 1370 **25000** Spring Spring Spring Spring Spring Spring Spring Spring Catch per Area (kg/km^2) 1380 1390 1400 1650 1690 1700 1710 1730 **25000** Fall Fall Fall Fall Fall Fall Spring Fall 1050 1100 1160 1170 1740 1060 1090 1130 **25000** Fall Fall Fall Fall Fall Fall Fall Fall 1190 1200 1210 1220 1230 1240 1250 1260 **25000** = Fall Fall Fall Fall Fall Fall Fall Fall 1270 1280 1290 1300 1360 1370 1380 1390 **75000** ± Fall 1400 **25000** 0.0**2.002.25.502.70**500

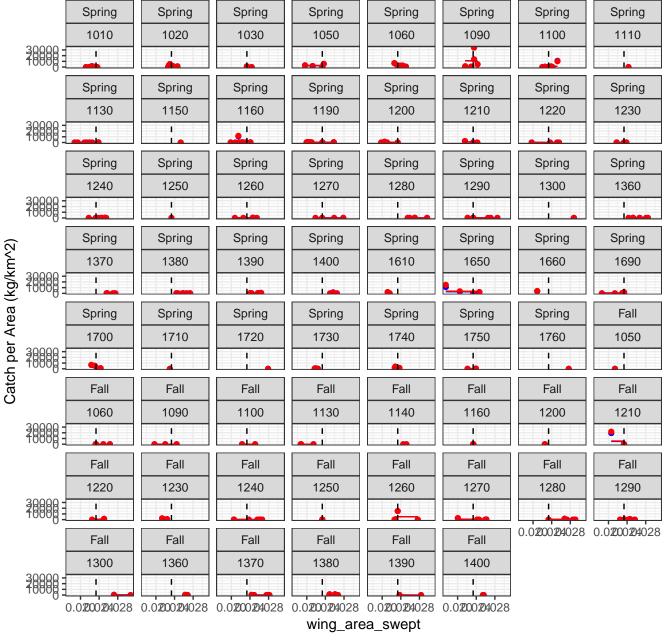
wing_area_swept

Herring 2010 Case 2 (Without Zeros, With Fills) Winner = Standard



wing_area_swept

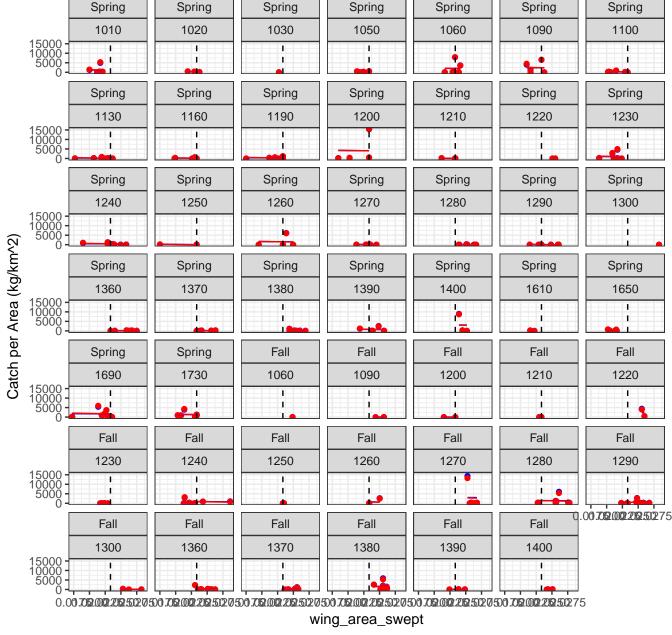
Herring 2011 Case 2 (Without Zeros, With Fills) Winner = Standard



Herring 2012 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring 1020 1050 1090 1100 1130 1150 1010 1060 Spring Spring Spring Spring Spring Spring Spring Spring 1160 1170 1180 1190 1200 1210 1220 1230 Spring Spring Spring Spring Spring Spring Spring Spring 1240 1250 1260 1270 1280 1290 1300 1360 Catch per Area (kg/km^2) Spring Spring Spring Spring Spring Spring Spring Fall 1370 1730 1050 1380 1390 1400 1650 1690 Fall Fall Fall Fall Fall Fall Fall Fall 1090 1160 1190 1200 1210 1220 1230 1240 Fall Fall Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1360 1370 1380 $0.02 \\ 0.02 \\$ Fall Fall 1390 1400 0.020.024.0280.020.024.028

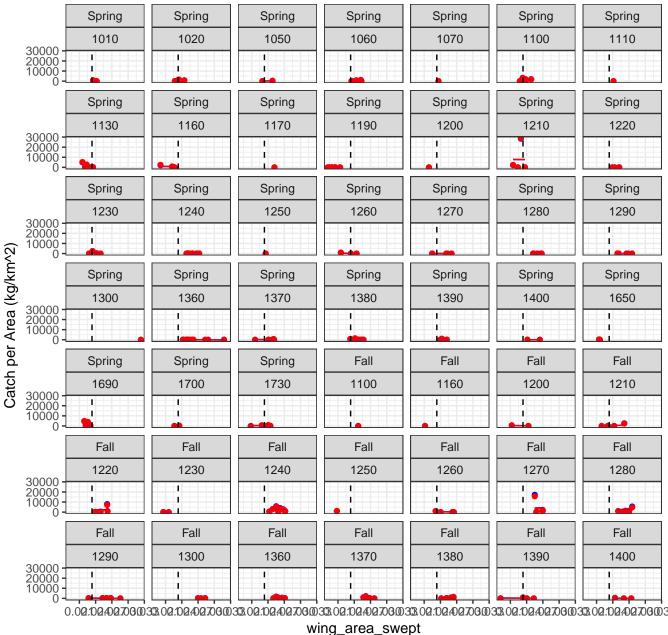
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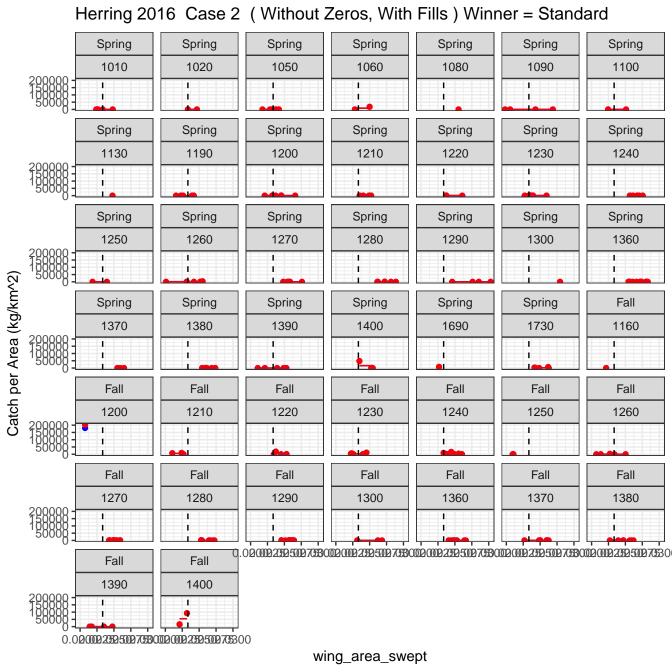
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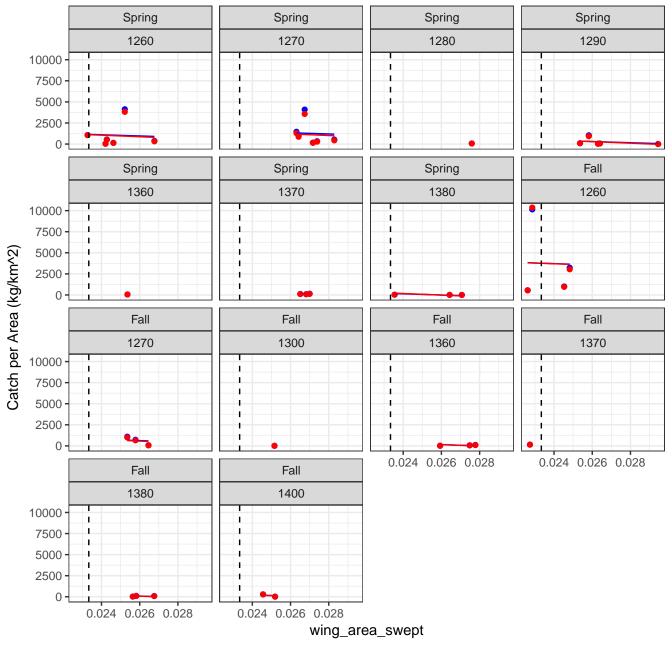
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Herring 2017 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring 1060 1010 1050 1090 1100 1130 1020 Spring Spring Spring Spring Spring Spring Spring 1160 1170 1200 1210 1220 1230 1240 Spring Spring Spring Spring Spring Spring Spring 1250 1260 1270 1280 1290 1300 1360 Catch per Area (kg/km^2) Spring Spring Spring Spring Spring Spring Spring 1370 1380 1390 1400 1650 1690 1730 Spring Fall Fall Fall Fall Fall Fall 1740 1160 1190 1200 1210 1220 1240 Fall Fall Fall Fall Fall Fall Fall 1250 1260 1270 1280 1290 1300 1360 TOI. O 080 2 10 240 270 3.00 080 2 10 240 270 3.00 080 2 10 240 270 3.0 Fall Fall Fall Fall 1370 1380 1390 1400 0.00802102402703@0802102402703@0802102402703@08021024027030 wing_area_swept

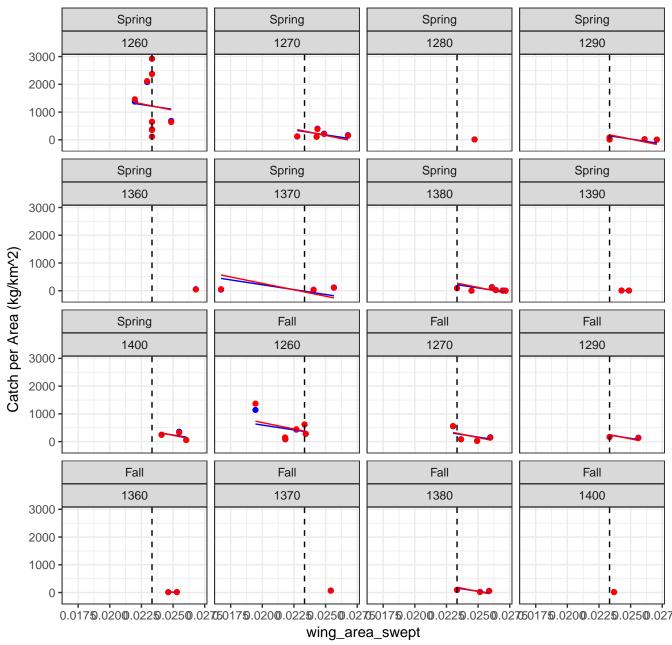
GOMcod 2009 Case 2 (Without Zeros, With Fills) Winner = Standard



GOMcod 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring Spring Fall Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall Fall 0.0220.0240.0260.028 0.0220.0240.0260.028 wing_area_swept

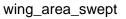
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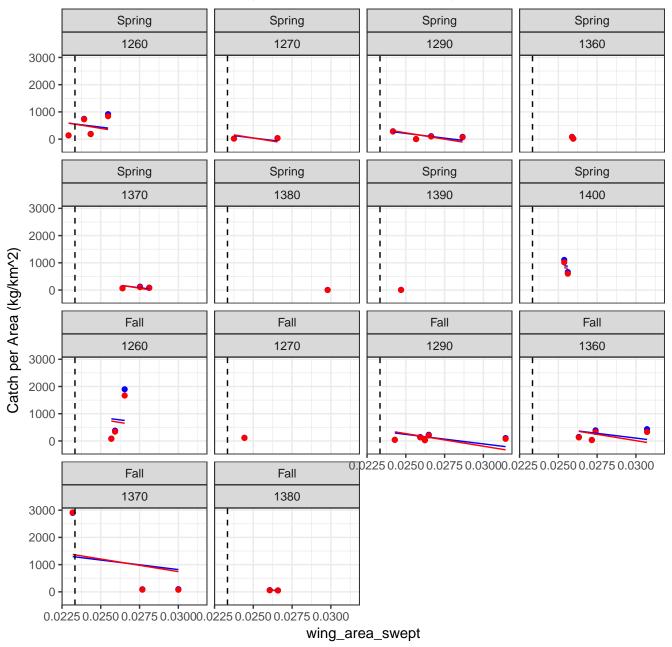


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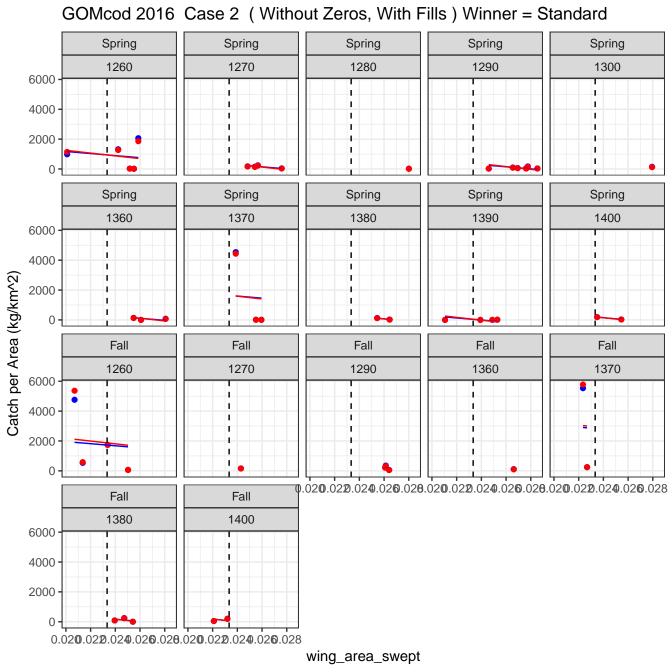
 $0.020 \oplus .022 \oplus .025 \oplus .0275$



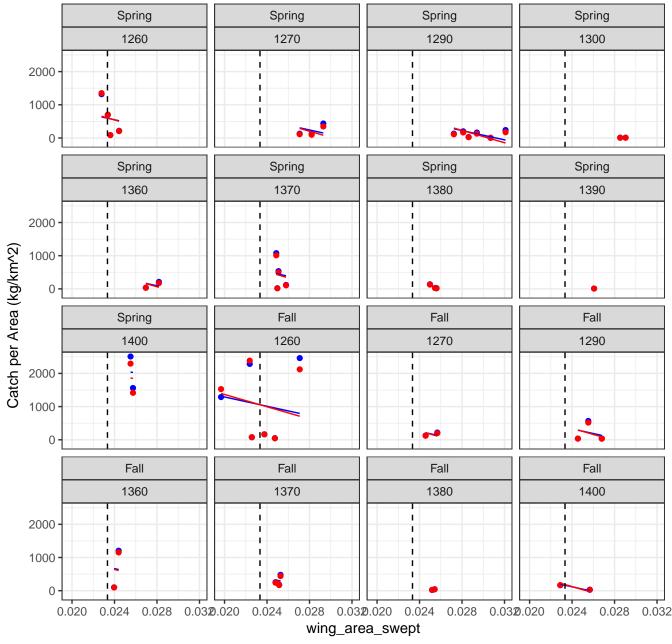
GOMcod 2014 Case 2 (Without Zeros, With Fills) Winner = Standard



GOMcod 2015 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1270 1260 1280 1290 1300 ı ı ı 7500 5000 2500 Fall Spring Spring Spring Spring 1360 1370 1380 1400 1260 ı 7500 5000 Catch per Area (kg/km^2) 2500 Fall Fall Fall Fall Fall 1270 1290 1300 1360 1370 ı 7500 ī ı 5000 2500 0 T01,0210.0240.0270.030 0.0210.0240.0270.030 0.0210.0240.0270.030 Fall Fall 1380 1400 7500 5000 2500 0.0210.0240.0270.030 0.0210.0240.0270.030 wing_area_swept



GOMcod 2017 Case 2 (Without Zeros, With Fills) Winner = Standard



Nmonkfish 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1210 1220 1230 1270 1240 1260 200 100 Spring Spring Spring Spring Spring Spring 1280 1290 1300 1340 1351 1360 200 -100 Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1220 Catch per Area (kg/km^2) 200 100 0 Fall Fall Fall Fall Fall Fall 1230 1240 1260 1270 1280 1250 200 -100 0 Fall Fall Fall Fall Fall Fall 1290 1300 1351 1360 1370 1380 200 100 0 0.0294.0205.0208.030 0.0294.0205.0238.030 0.0294.0205.0238.030 0.0294.0205.0238.030 Fall Fall 1390 1400 200 -100 0 0.0294.0205.0288.030 0.0294.0205.0288.030 wing_area_swept

Nmonkfish 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1260 1230 1240 1270 1280 1220 300 200 100 0 Spring Spring Spring Spring Spring Spring 1290 1300 1340 1360 1370 1380 300 200 100 Spring Spring Fall Fall Fall Fall 1390 1400 1200 1210 1220 1230 Catch per Area (kg/km^2) 300 200 100 0 Fall Fall Fall Fall Fall Fall 1240 1250 1270 1280 1290 1260 300 200 100 0 Fall Fall Fall Fall Fall Fall 1300 1340 1351 1360 1370 1380 300 200 100 0 10.0222.0234.0236.0238.03300232.0234.0236.0238.03300232.0234.0236.0238.03300232.0224.0236.0238.030 Fall Fall 1390 1400 300 200 100 0.022202402660280300022024026028030 wing_area_swept

Nmonkfish 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1240 1260 1270 1290 1220 1280 400 200 0 Spring Spring Spring Spring Spring Spring 1360 1370 1380 1300 1340 1351 400 200 0 Catch per Area (kg/km^2) Spring Fall Fall Fall Spring Fall 1390 1400 1210 1220 1230 1240 400 200 Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1340 400 200 0 Fall Fall Fall Fall Fall Fall 1351 1360 1370 1380 1390 1400 400 200

wing_area_swept

 $0.022 \cdot 525 \cdot 027 \cdot 5300 \cdot 0.022 \cdot 525 \cdot 027 \cdot 02$

Nmonkfish 2012 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1210 1220 1240 1260 1270 1280 400 -300 -200 -100 -Spring Spring Spring Spring Spring Spring 1290 1300 1340 1351 1360 1370 400 -300 -200 -100 -Spring Spring Spring Fall Fall Fall 1380 1390 1400 1210 1220 1230 Catch per Area (kg/km^2) 400 -300 -200 -100 -0 -Fall Fall Fall Fall Fall Fall 1240 1260 1270 1280 1290 1300 400 -300 -200 -100 -1 0 Fall Fall Fall Fall Fall Fall 1340 1351 1360 1370 1380 1390 400 -300 -200 -100 - $0.02002202402602 \\ \$.02002202402602 \\ \$.02002202202 \\ \$.0200220202 \\ \$.0200202 \\ \$.0200202 \\ \$.0200202 \\ \$.0200202 \\ \$.0200202 \\ \$.0200202 \\ \$.0200202 \\ \$.02002 \\ \$.0200202 \\ \$.0200$ Fall 1400 400 -300 -200 -100 -0.0200020202040206028 wing area swept

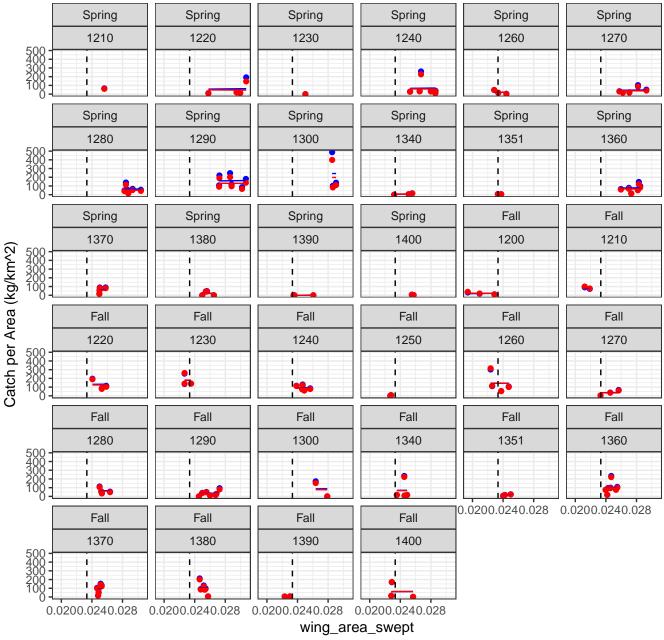
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Nmonkfish 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1220 1240 1260 1270 1280 1290 1 1 100 50 Spring Spring Spring Spring Spring Spring 1300 1340 1351 1360 1370 1380 100 50 0 Catch per Area (kg/km^2) Spring Spring Fall Fall Fall Fall 1390 1400 1220 1230 1240 1260 100 50 Fall Fall Fall Fall Fall Fall 1270 1280 1290 1300 1351 1360 100 50 0 TD.02**2.5**2**5**.002**7.**53000.02**2.5**2**5**.002**7.**53000.02**2.5**2**5**.002**7.**5300 Fall Fall Fall 1370 1380 1390 100 -50 0.0225025.0027503000.0225025.0027503000.0225025.002750300 wing_area_swept

Nmonkfish 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1260 1220 1230 1240 1280 1270 300 200 100 -Spring Spring Spring Spring Spring Spring 1290 1300 1340 1351 1360 1370 300 200 100 Spring Spring Spring Fall Fall Fall 1380 1390 1400 1200 1210 1220 Catch per Area (kg/km^2) 300 · 200 · 100 0 Fall Fall Fall Fall Fall Fall 1230 1240 1270 1280 1250 1260 300 200 100 0 Fall Fall Fall Fall Fall Fall 1290 1300 1340 1351 1360 1370 300 200 100 -0 0.0226250276300 0.0226250276300 0.0226250276300 Fall Fall Fall 1380 1390 1400 300 200 100 0.0226250276300 0.0**22625027.6**300 0.0**22625027.6**300 wing_area_swept

Nmonkfish 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1210 1220 1250 1200 1230 1240 1 1 400 1 200 Т, Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1340 400 200 0 Spring Spring Spring Spring Spring Spring 1351 1360 1370 1380 1390 1400 Catch per Area (kg/km^2) 400 200 0 Fall Fall Fall Fall Fall Fall 1200 1210 1230 1250 1220 1240 400 200 0 Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1340 400 200 0 Fall Fall Fall Fall Fall Fall 1351 1360 1370 1380 1390 1400 400 200 0 0.02250250250200.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.0225025000.022502500.022500.022502500.022500.022502500.02250wing_area_swept

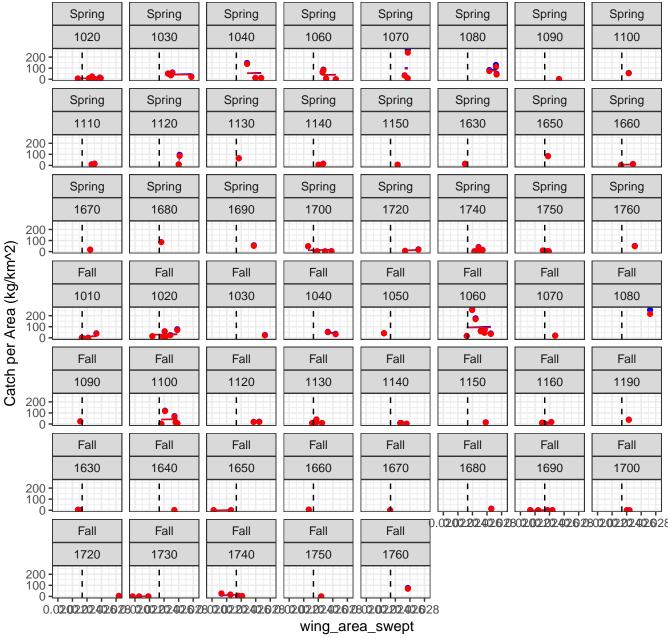
Nmonkfish 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread



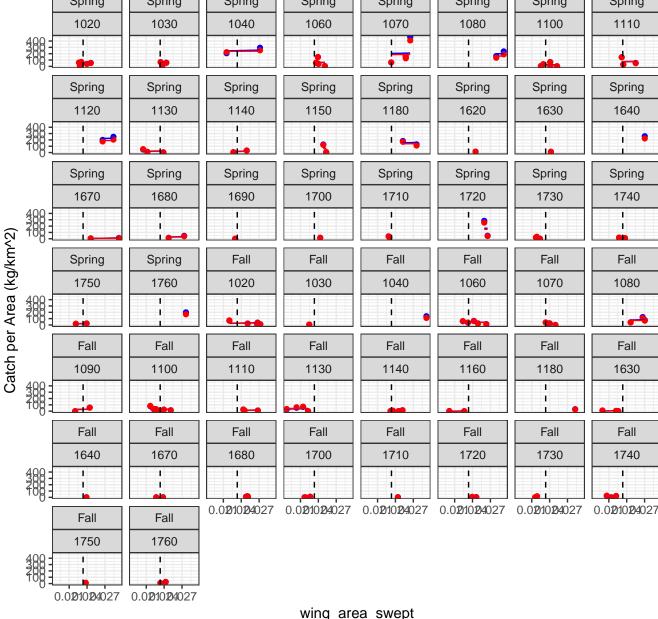
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wing_area_swept

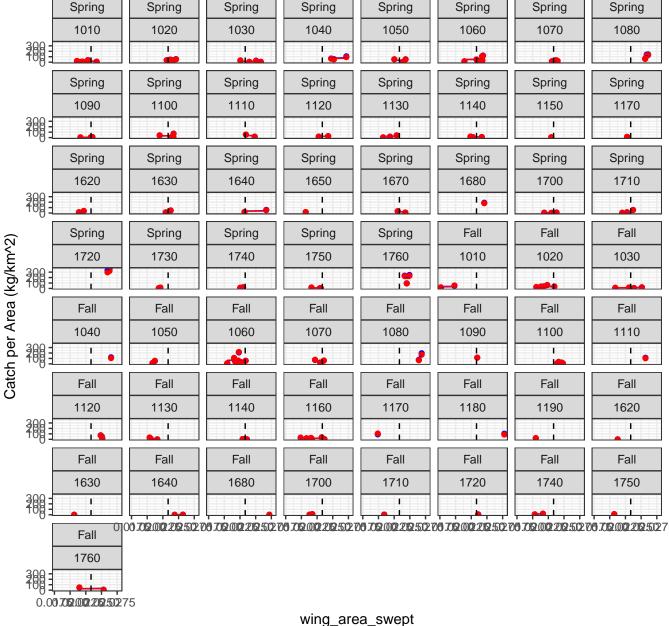
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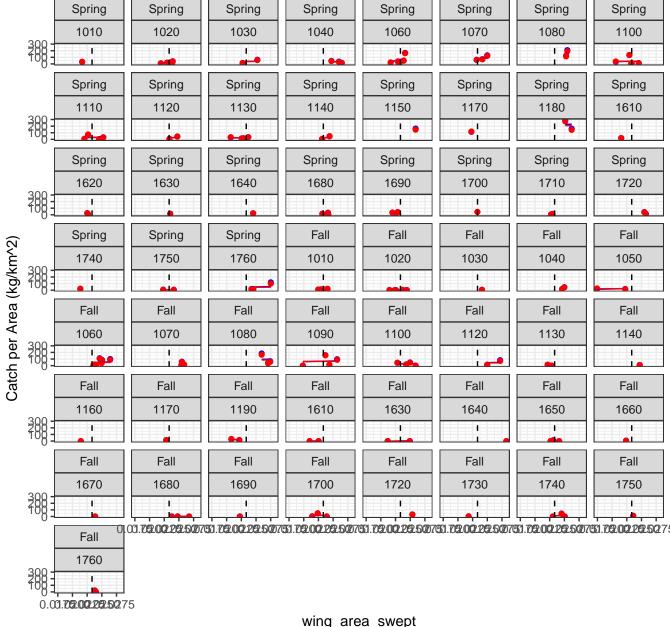
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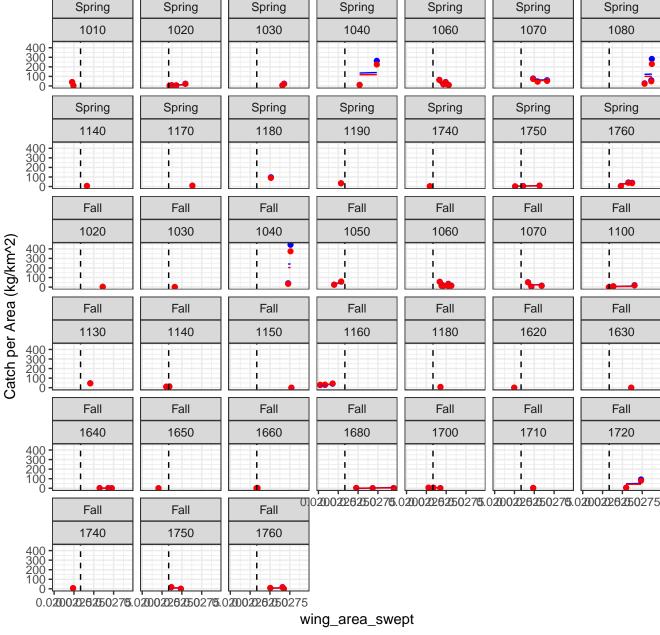
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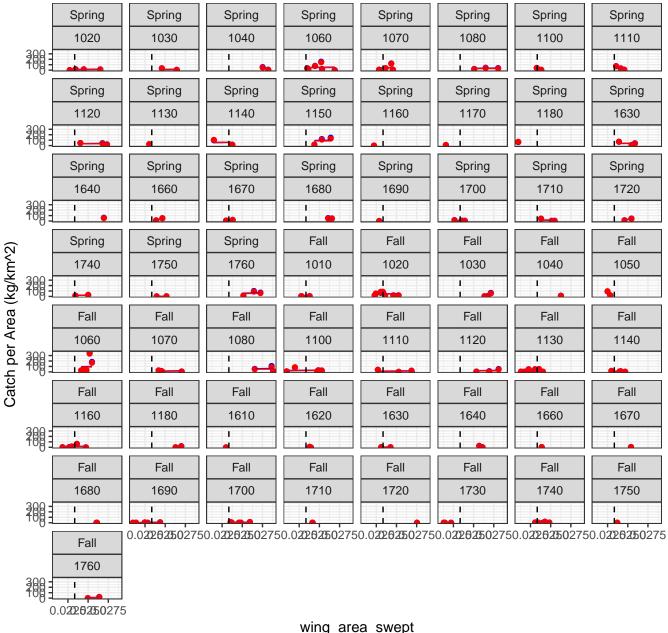
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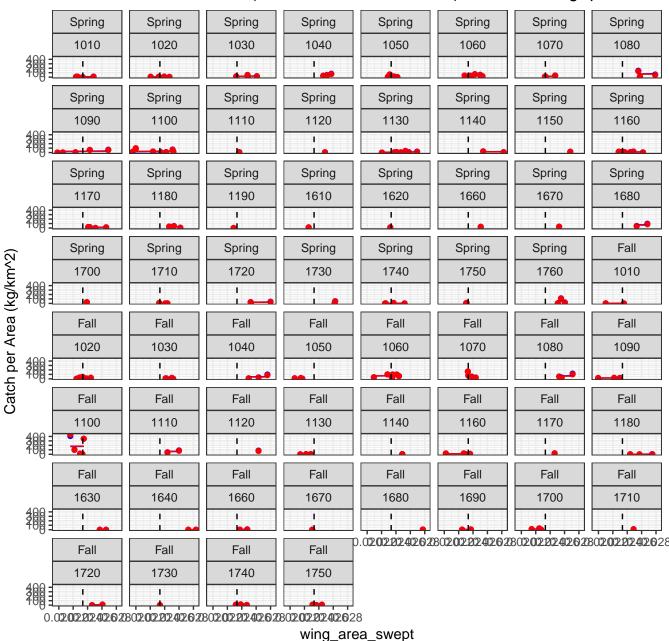
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Smonkfish 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Smonkfish 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread

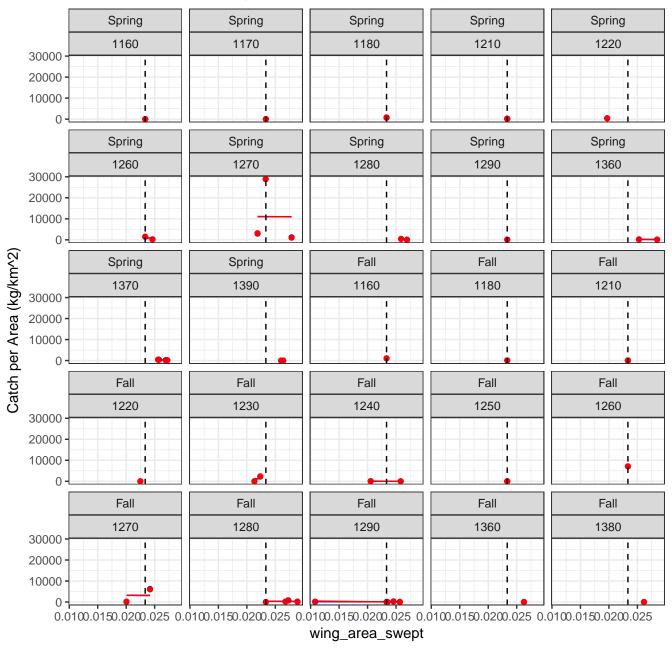


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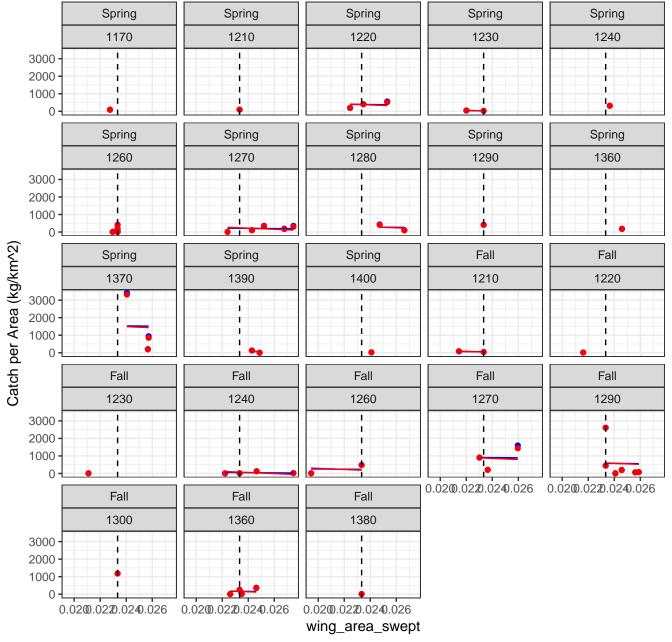
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Pollock 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1180 1210 1220 1240 1260 4000 2000 Spring Spring Spring Spring Spring 1360 1270 1280 1290 1370 4000 2000 Catch per Area (kg/km^2) Spring Spring Spring Fall Fall 1380 1390 1400 1210 1230 4000 2000 -Fall Fall Fall Fall Fall 1270 1240 1280 1290 1360 4000 2000 0 0.0220.0240.0260.028 0.0220.0240.0260.028 0.0220.0240.0260.028 Fall Fall 1370 1380 4000 2000 0.0220.0240.0260.028 0.0220.0240.0260.028 wing_area_swept

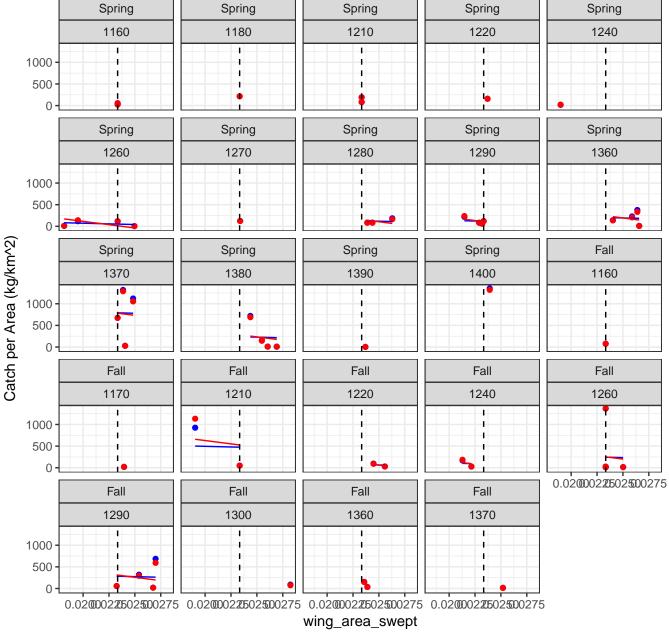
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Pollock 2012 Case 2 (Without Zeros, With Fills) Winner = Standard



Pollock 2013 Case 2 (Without Zeros, With Fills) Winner = Standard

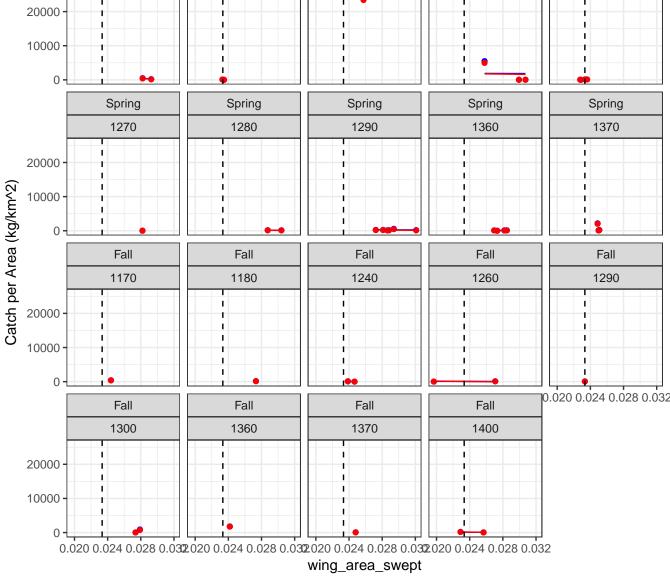


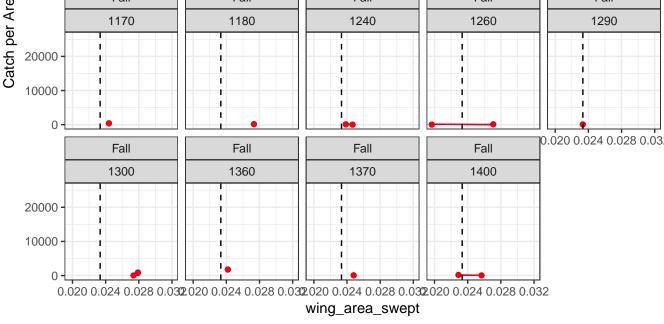
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Pollock 2015 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring 1170 1180 1210 1220 1240 1250 30000 -20000 -10000 Spring Spring Spring Spring Spring Spring 1260 1280 1290 1360 1370 1380 30000 20000 -10000 -0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall Fall 1240 1390 1160 1170 1210 1220 30000 20000 -10000 -Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1360 30000 20000 -10000 -0 0.0230.0250.027 0.0230.0250.027 0.0230.0250.027 Fall Fall Fall 1370 1380 1390 30000 20000 -10000 0 0.0230.0250.027 0.0230.0250.027 0.0230.0250.027 wing_area_swept

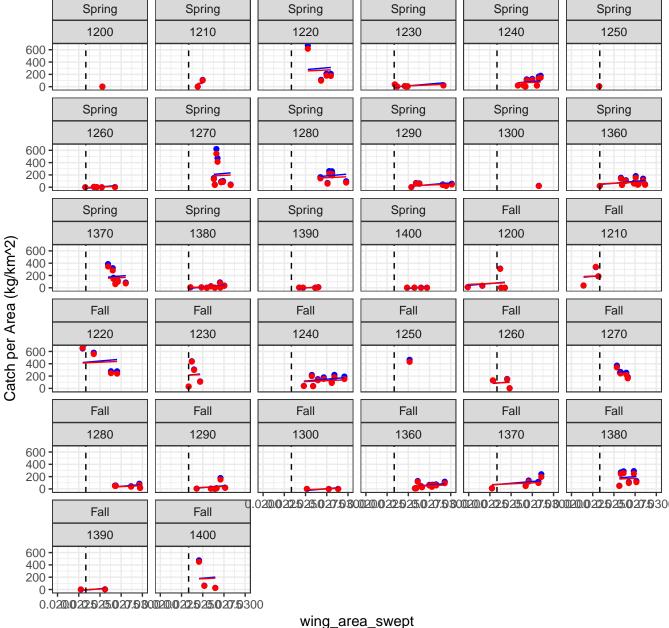
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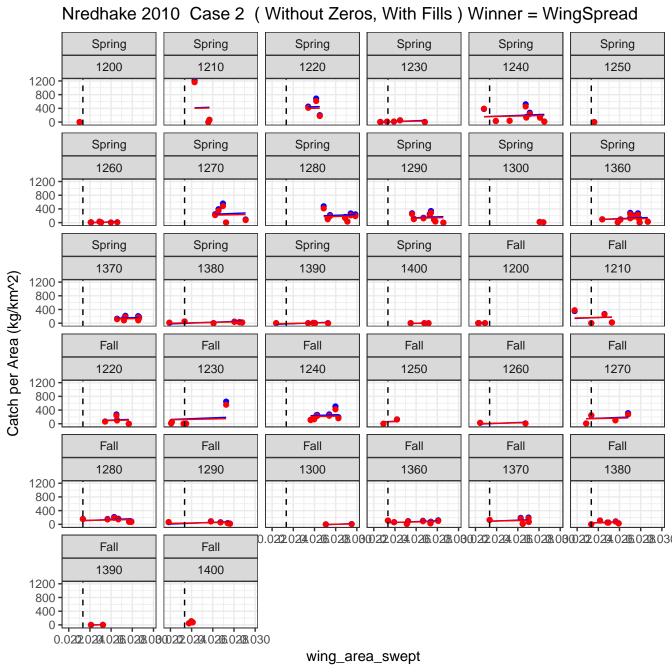
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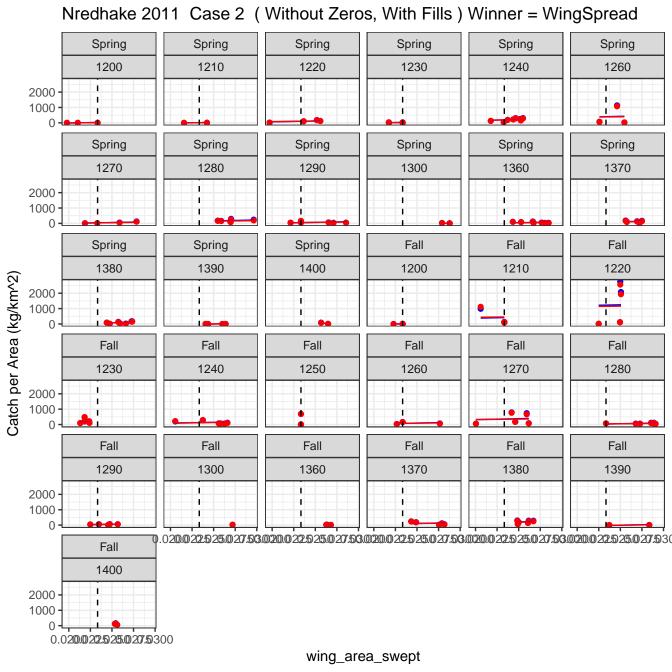




Nredhake 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread







Nredhake 2012 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1230 1200 1210 1220 1240 1250 1200 **-**900 **-**600 **-**300 **-**Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 1200 900 600 300 Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 1200 900 600 300 Fall Fall Fall Fall Fall Fall 1220 1260 1270 1230 1240 1280 1200 900 -600 -300 Fall Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 1390 1200 600 **-**300 **-**0 **-**0.0200.0240.028 0.0200.0240.028 0.0200.0240.028 0.0200.0240.028 0.0200.0240.028 Fall 1400 1200 900 600 300 0.0200.0240.028 wing_area_swept

Nredhake 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1210 1220 1230 1240 1250 3000 2000 1000 Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 3000 2000 1000 -Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 3000 2000 -1000 0 Fall Fall Fall Fall Fall Fall 1220 1250 1270 1230 1240 1260 3000 2000 -1000 1 I 0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 3000 2000 1000 TU. O 17**.6200226250275**0 17**.6200226250**2750 17**.6200226250**275 Fall Fall 1390 1400 3000 2000 1000 0.017.6200226250275017.6200226250275 wing_area_swept

Nredhake 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1210 1220 1230 1250 1240 1500 1000 500 0 Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 1500 1000 500 -Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 1500 1000 500 0 Fall Fall Fall Fall Fall Fall 1220 1230 1250 1260 1270 1240 1500 1000 -500 :55 0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 1500 1000 500 0 0.020102040207.030 0.020102040207.030 0.020102040207.030 0.0201.02040207.030 Fall Fall 1390 1400 1500 1000 500 0.020102040207.030 0.020102040207.030 wing_area_swept

Nredhake 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1230 1200 1210 1220 1240 1250 4000 -3000 -2000 -1000 -Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 4000 3000 2000 1000 Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 4000 3000 2000 1000 0 Fall Fall Fall Fall Fall Fall 1220 1230 1240 1250 1260 1270 4000 3000 2000 -1000 0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 4000 3000 2000 **-**1000 **-**0.02110224027.030030.02010224027.030030.02010224027.030030.02010224027.03003Fall Fall 1390 1400 4000 3000 2000 1000 0.020102240207.0300030.020102240207.0300033 wing_area_swept

Nredhake 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1230 1250 1210 1220 1240 1500 **-**1000 **-**500 le Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 1500 -1000 Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 1500 -1000 -500 -0 Fall Fall Fall Fall Fall Fall 1220 1230 1240 1250 1260 1270 1500 -1000 500 -0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 1500 1000 **-**500 **-**0 **-**<u>U,</u>02**0022525027.580020022525027.580020022525027.58002000225**25027.580020022525027.530 Fall Fall 1390 1400 1500 1000 500 0.02**0.022525.027.530020.022525.027.5**300 wing_area_swept

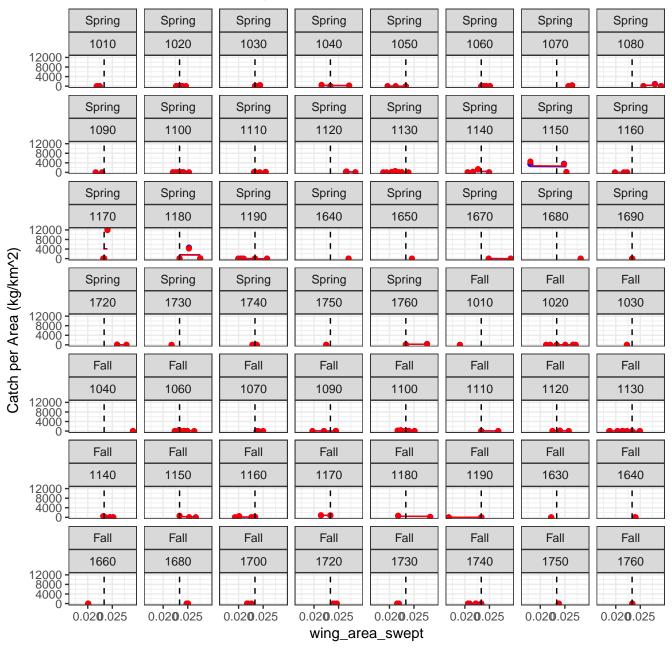
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Sredhake 2009 Case 2 (Without Zeros, With Fills) Winner = Standard



Sredhake 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring 1040 1010 1020 1030 1050 1060 1070 1080 ı 1 Spring Spring Spring Spring Spring Spring Spring Spring 1090 1100 1110 1120 1130 1150 1140 1160 7000 1900 Spring Spring Spring Spring Spring Spring Spring Spring 1170 1180 1190 1650 1660 1670 1680 1690 Spring Spring Spring Spring Spring Spring Fall Fall Catch per Area (kg/km^2) 1700 1720 1730 1740 1750 1760 1010 1020 Fall Fall Fall Fall Fall Fall Fall Fall 1050 1060 1100 1030 1040 1070 1080 1090 ! Fall Fall Fall Fall Fall Fall Fall Fall 1120 1130 1140 1180 1110 1150 1160 1170 1 Fall Fall Fall Fall Fall Fall Fall Fall 1190 1620 1640 1660 1670 1680 1720 1730 Fall Fall Fall 1740 1750 1760 0.0**22525027**0500.0**22525027**0500.0**22525027**0500 wing_area_swept

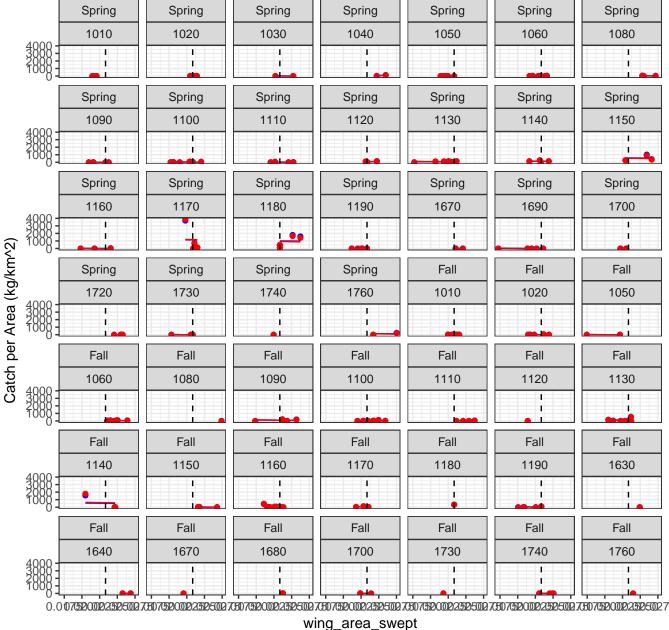
Sredhake 2011 Case 2 (Without Zeros, With Fills) Winner = Standard



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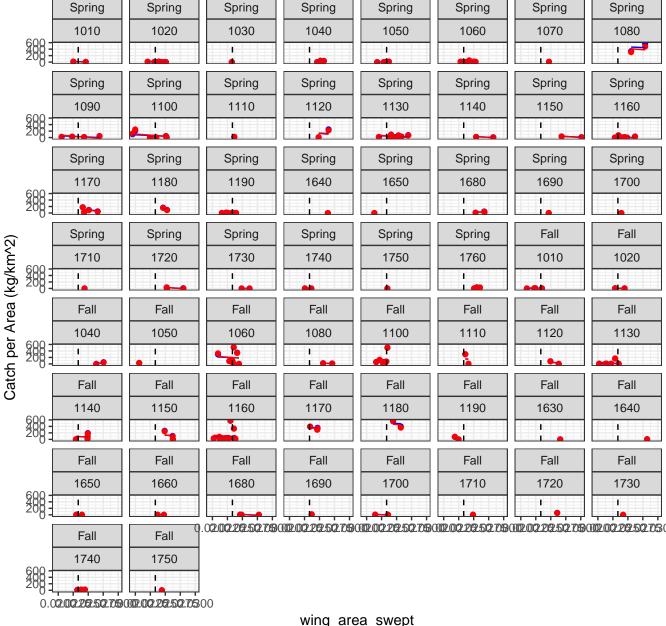
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Sredhake 2016 Case 2 (Without Zeros, With Fills) Winner = Standard



Sredhake 2017 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring 1020 1030 1040 1050 1060 1010 300 200 100 0 Spring Spring Spring Spring Spring Spring 1070 1080 1090 1100 1110 1120 300 200 100 Spring Spring Spring Spring Spring Spring 1140 1150 1160 1170 1130 1180 300 200 100 Catch per Area (kg/km^2) 0 Spring Spring Spring Spring Spring Spring 1650 1660 1680 1690 1730 1720 300 200 100 0 Fall Fall Fall Fall Fall Spring 1760 1130 1140 1150 1160 1170 300 200 100 0 0.022024026028030.022024026028030.022024026028030.022024026028030.022024026028030Fall Fall 1180 1190 300 200 100 0.022024026028030.022024026028030 wing_area_swept

Whitehake 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1210 1220 1230 1240 1270 1280 2000 1000 Spring Spring Spring Spring Spring Spring 1290 1300 1360 1370 1380 1390 2000 1000 0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall Fall 1400 1210 1220 1230 1240 1250 2000 1000 Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1360 2000 1000 0 TOLO 2010 2030 2050 2070 2090 30120 10 2030 2050 2070 2090 3 Fall Fall Fall Fall 1370 1380 1390 1400 2000 1000 0.021023025027029031P1023025027029031P1023025027029031P1023025027029031P wing_area_swept

Whitehake 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Catch per Area (kg/km^2) Spring Spring Fall D.0202020402060208030 Fall Fall Fall Fall Fall wing_area_swept

Whitehake 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1220 1230 1240 1260 1270 1280 3000 2000 1000 Spring Spring Spring Spring Spring Spring 1290 1300 1360 1370 1380 1390 3000 2000 1000 0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall Fall 1400 1210 1220 1230 1240 1250 3000 2000 -1000 Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1360 3000 2000 1000 0 TO]. O 1 00. O 1 05. O 2 00. O 2 05. O 03.0O 1 00. O 1 05. O 2 00. O 2 05. O 3 O Fall Fall Fall Fall 1370 1380 1390 1400 3000 2000 1000 wing_area_swept

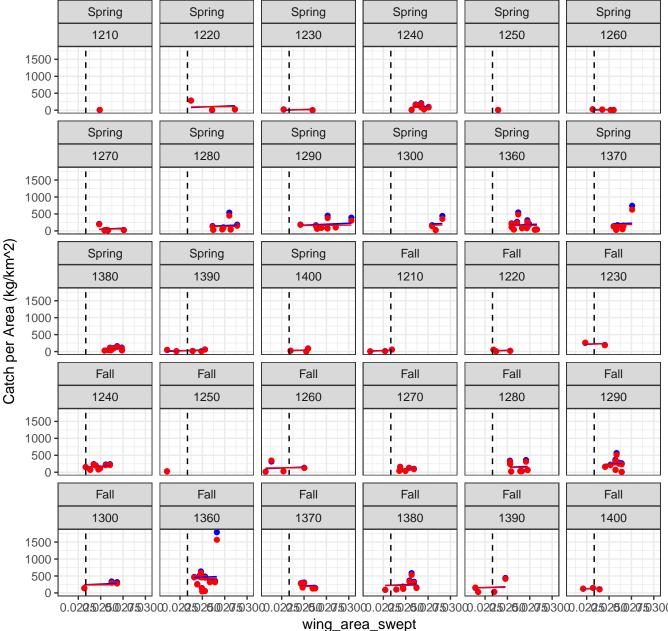
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Whitehake 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring 1220 1260 1280 1290 1300 1500 1000 500 Fall Spring Spring Spring Spring 1360 1370 1380 1390 1210 1500 1000 500 -0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall 1220 1230 1240 1250 1260 1500 1000 500 Fall Fall Fall Fall Fall 1270 1280 1290 1300 1360 1500 1000 ı 500 -0 0.0210.0230.0250.0270.02 Fall Fall Fall Fall 1370 1380 1390 1400 1500 1000 500 wing_area_swept

Whitehake 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1210 1220 1240 1270 1290 1280 1500 ī ī ī 1000 500 0 Spring Spring Spring Spring Spring Spring 1300 1360 1370 1400 1380 1390 1500 1000 500 -0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall 1210 1220 1230 1240 1250 1260 1500 1000 500 Fall Fall Fall Fall Fall Fall 1270 1280 1290 1300 1360 1370 1500 1000 500 -0 010200225250275300.0200225250275300.0200225250275300 Fall Fall Fall 1380 1390 1400 1500 1000 500 0.020002252500275300.020002252500275300.020002252500275300 wing_area_swept

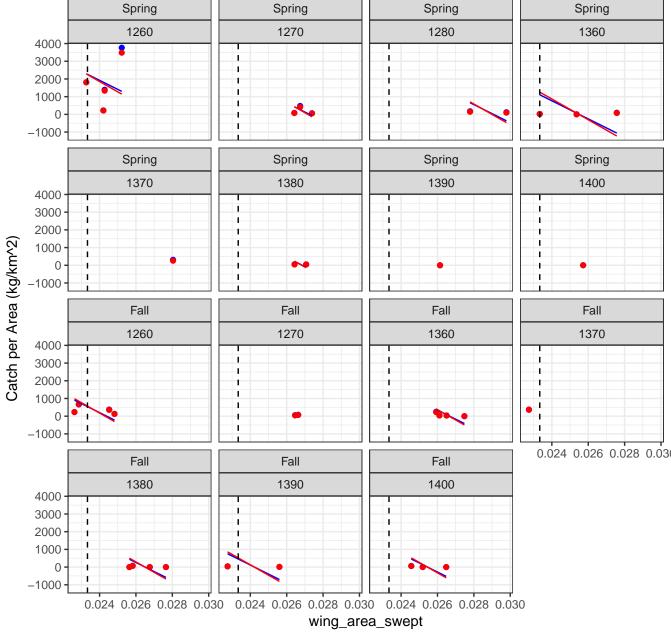
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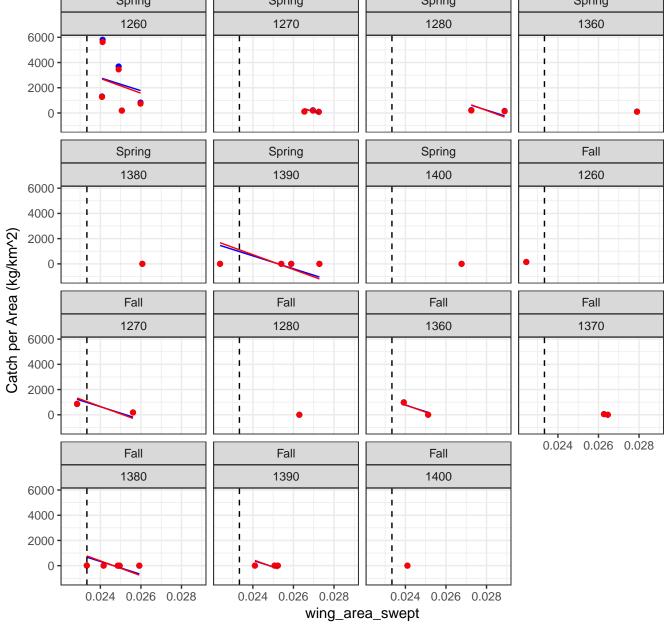
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GOMhaddock 2009 Case 2 (Without Zeros, With Fills) Winner = Standard

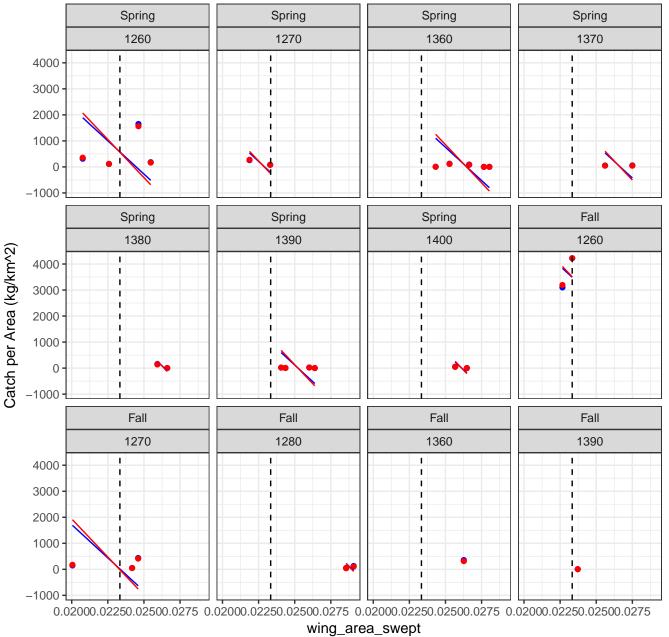


GOMhaddock 2010 Case 2 (Without Zeros, With Fills) Winner = Standard

Spring Spring Spring Spring

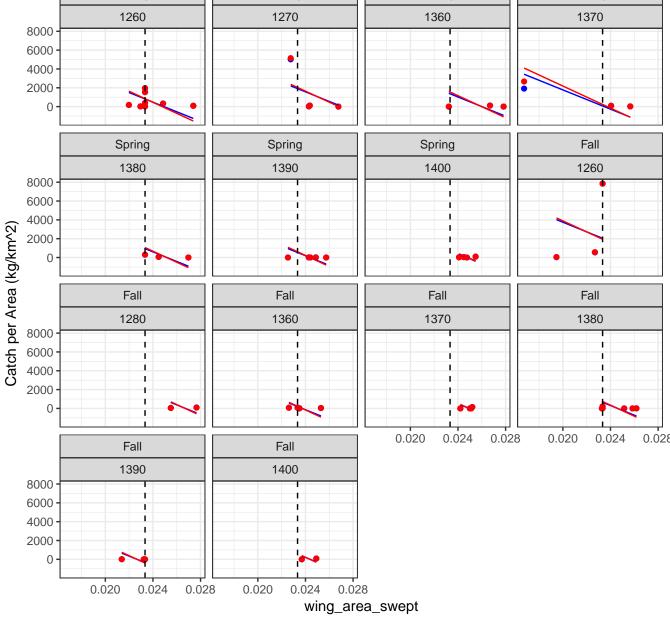


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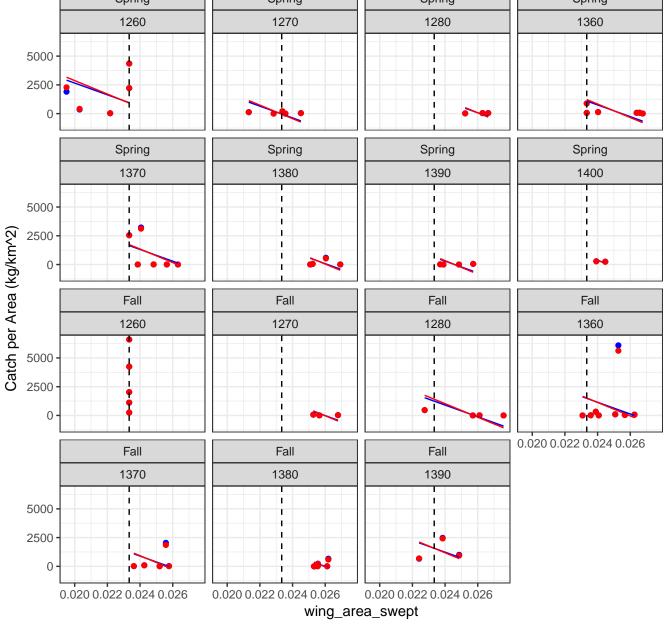
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Spring Spring Spring Spring Spring 1370

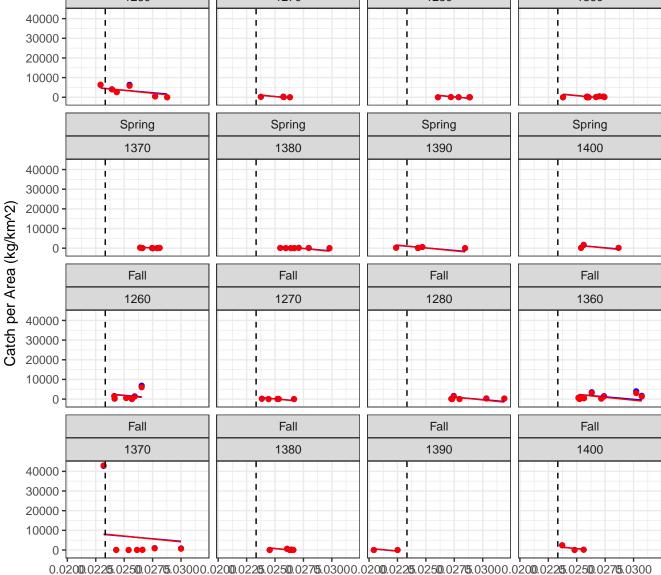


GOMhaddock 2013 Case 2 (Without Zeros, With Fills) Winner = Standard

Spring Spring Spring Spring



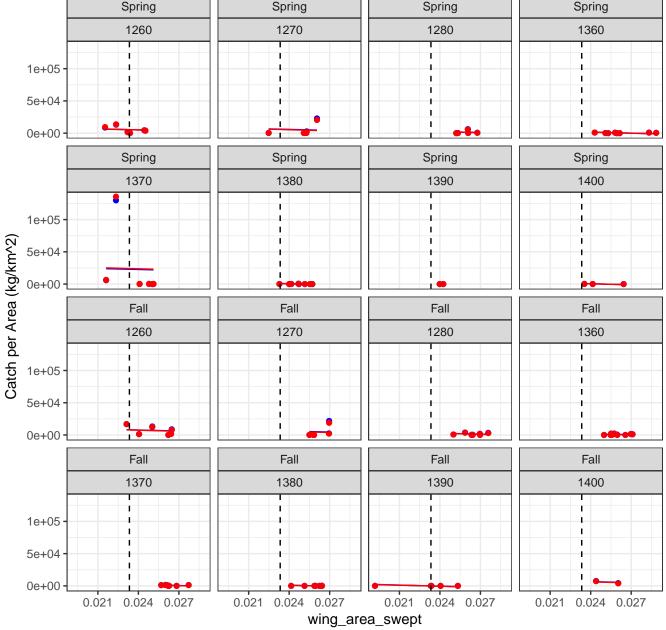
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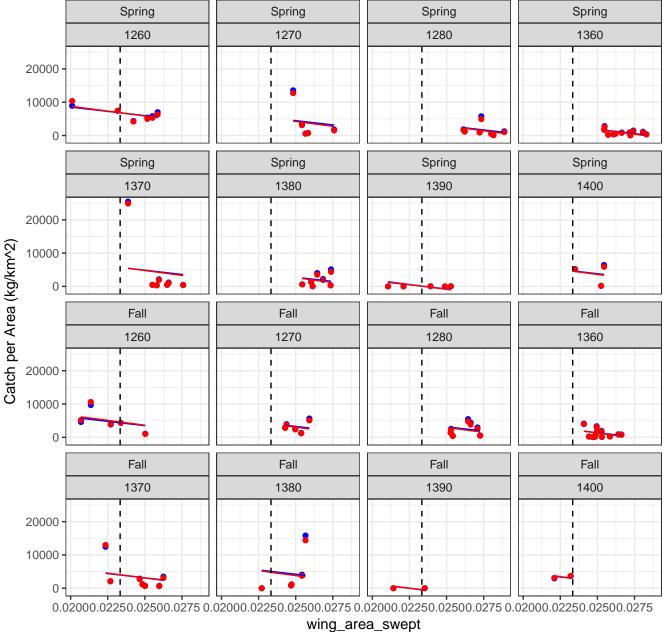
wing_area_swept

GOMhaddock 2015 Case 2 (Without Zeros, With Fills) Winner = Standard

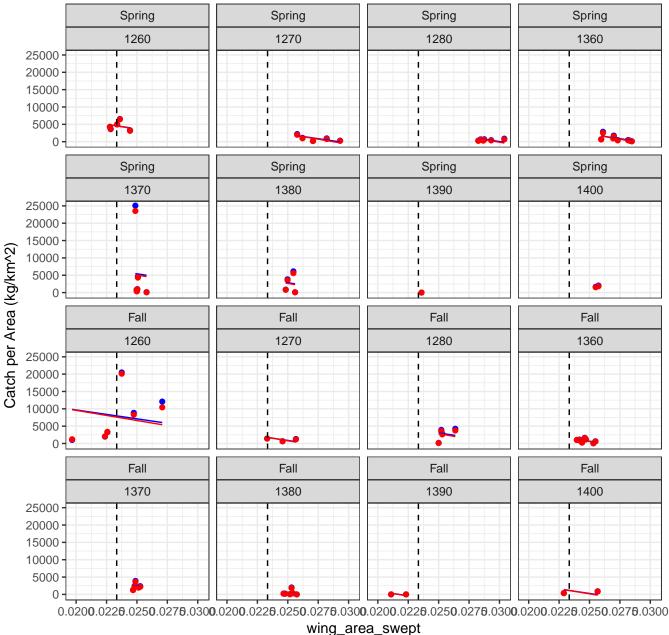
Spring Spring Spring Spring

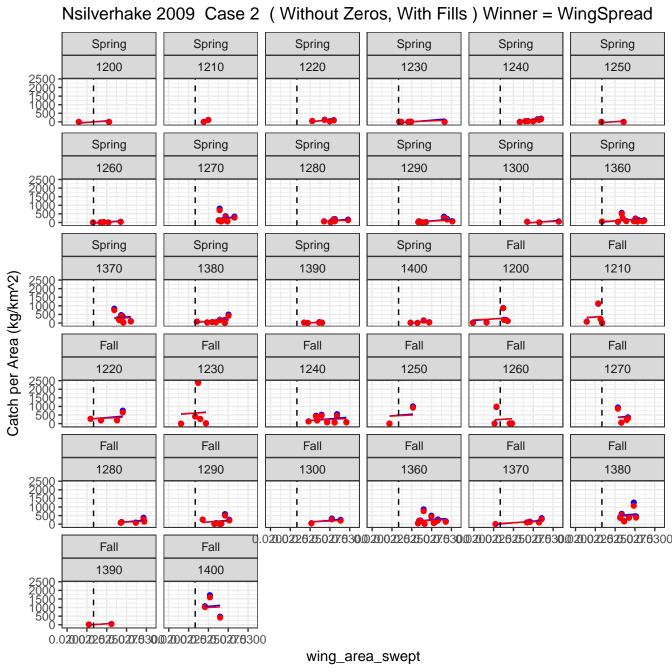


GOMhaddock 2016 Case 2 (Without Zeros, With Fills) Winner = Standard



GOMhaddock 2017 Case 2 (Without Zeros, With Fills) Winner = Standard





Nsilverhake 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1210 1220 1230 1240 1250 4000 -3000 -2000 -1000 -Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 4000 3000 2000 1000 Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 4000 3000 2000 1000 Fall Fall Fall Fall Fall Fall 1220 1230 1240 1250 1260 1270 4000 **-**3000 **-**2000 **-**1000 0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 4000 **-**3000 **-**2000 **-**1000 **-**Fall Fall 1390 1400 4000 3000 2000 1000 0.0225025002750300.0225025002750300 wing area swept

Nsilverhake 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1220 1230 1250 1200 1210 1240 3000 2000 1000 -0 Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 3000 2000 1000 -Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 3000 2000 ı 1000 0 Fall Fall Fall Fall Fall Fall 1220 1230 1240 1250 1260 1270 3000 1 2000 -1000 -0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 3000 2000 1000 TO|. 0 1 00. 0 1 05. 0 2 00. 0 2 55. 0 **3** 00 1 00. 0 1 05. 0 2 00. 0 2 25. 0 **3** 00 1 00. 0 1 05. 0 2 00. 0 2 05. 0 3 00 1 00. 0 1 05. 0 2 00. 0 2 05. 0 3 0 Fall Fall 1390 1400 3000 2000 1000 0.010.015.020.025.03.010.015.020.025.030 wing_area_swept

Nsilverhake 2012 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1230 1200 1210 1220 1240 1250 6000 4000 2000 Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 6000 4000 2000 -Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 6000 4000 2000 0 -Fall Fall Fall Fall Fall Fall 1220 1230 1260 1270 1240 1280 6000 4000 -2000 -0 Fall Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 1390 6000 4000 2000 0.0200.0240.028 0.0200.0240.028 0.0200.0240.028 0.0200.0240.028 0.0200.0240.028 Fall 1400 6000 4000 2000 -0 0.0200.0240.028 wing_area_swept

Nsilverhake 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1220 1200 1210 1230 1240 1250 4000 3000 **-**2000 **-**1000 **-**Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 4000 3000 **-**2000 **-**1000 **-**Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 4000 3000 2000 1000 Catch per Area (kg/km^2) 0 Fall Fall Fall Fall Fall Fall 1220 1250 1270 1230 1240 1260 4000 3000 2000 1000 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 4000 3000 **-**2000 **-**1000 **-**TI. 0 17:62002262502750 17:62002262502750 17:62002262502750 17:62002262502 Fall Fall 1390 1400 4000 **-**3000 **-**2000 **-**1000 **-**0.017.6200226250275017.6200226250275 wing area swept

Nsilverhake 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1210 1220 1230 1250 1240 6000 4000 2000 Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 6000 4000 2000 Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 6000 4000 2000 0 Fall Fall Fall Fall Fall Fall 1220 1230 1250 1270 1240 1260 6000 -4000 -2000 0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 6000 4000 2000 -0.020102040207.030 0.020102040207.030 0.020102040207.030 0.0201.02040207.030 Fall Fall 1390 1400 6000 4000 2000 0.020102040207.030 0.020102040207.030 wing_area_swept

Nsilverhake 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1220 1230 1260 1210 1240 6000 4000 2000 Spring Spring Spring Spring Spring Spring 1270 1280 1290 1300 1360 1370 6000 4000 2000 0 Spring Spring Spring Fall Fall Fall 1380 1390 1400 1200 1210 1220 Catch per Area (kg/km^2) 6000 4000 -2000 0 Fall Fall Fall Fall Fall Fall 1230 1240 1250 1260 1270 1280 6000 -4000 2000 0 Fall Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 1390 6000 4000 2000 Fall 1400 6000 4000 2000 0.020102040207.0300033 wing_area_swept

Nsilverhake 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1210 1220 1230 1240 1250 4000 -3000 -2000 -1000 -Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 4000 3000 2000 1000 Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 4000 3000 2000 1000 Fall Fall Fall Fall Fall Fall 1220 1230 1240 1250 1260 1270 4000 **-**3000 **-**2000 **-**1000 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 4000 3000 2000 1000 TI 02D022525027.530D2D022525027.530D2D022525027.530D2D022525027.530 Fall Fall 1390 1400 4000 3000 2000 1000 0.02**0.022525.027.530020.022525.027.5**300 wing area swept

Nsilverhake 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1200 1220 1230 1250 1210 1240 3000 2000 1000 -Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1300 1360 3000 2000 -7 1000 -Spring Spring Spring Spring Fall Fall 1370 1380 1390 1400 1200 1210 Catch per Area (kg/km^2) 3000 **-**2000 **-**1000 **-**0 Fall Fall Fall Fall Fall Fall 1220 1230 1240 1250 1270 1260 3000 -2000 -1000 0 Fall Fall Fall Fall Fall Fall 1280 1290 1300 1360 1370 1380 3000 -2000 ; **😜** 1000 -TI.01802102402703@.01802102402703@.01802102402703@.018021024027 Fall Fall 1390 1400 3000 2000 1000 0.01080201020402070300.0108020102040207030 wing_area_swept

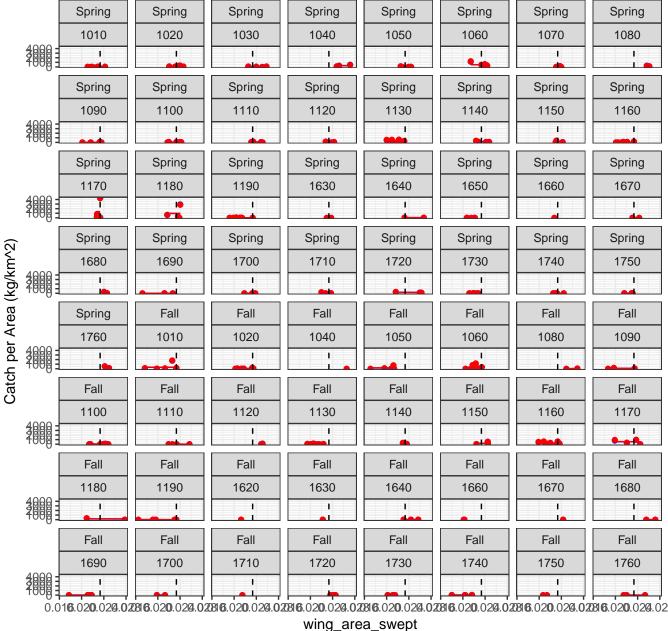
Ssilverhake 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring Spring 1010 1020 1030 1040 1050 1060 1070 1080 1090 ı 1 Spring Spring Spring Spring Spring Spring Spring Spring Spring 1100 1110 1120 1130 1140 1150 1160 1170 1180 Spring Spring Spring Spring Spring Spring Spring Spring Spring 1190 1610 1620 1640 1650 1660 1670 1680 1690 Spring Spring Spring Spring Spring Spring Fall Fall Fall Catch per Area (kg/km^2) 1700 1710 1730 1740 1750 1760 1010 1020 1030 **1999** Fall Fall Fall Fall Fall Fall Fall Fall Fall 1050 1100 1060 1070 1080 1090 1110 1120 1130 **4000** Fall Fall Fall Fall Fall Fall Fall Fall Fall 1140 1190 1630 1150 1160 1170 1180 1640 1650 **4000 1** ı 1 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1660 1670 1680 1690 1700 1710 1720 1730 1740 **4000** Fall Fall 1750 1760 **4000** 0.0**2.02.25.527.52.02.25.52**.5275

wing_area_swept

Ssilverhake 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring Spring 1010 1020 1030 1040 1050 1060 1070 1080 1090 I. 1 1 1 Spring Spring Spring Spring Spring Spring Spring Spring Spring 1100 1110 1120 1130 1140 1150 1160 1170 1180 **2500** Spring Spring Spring Spring Spring Spring Spring Spring Spring 1190 1610 1620 1630 1640 1650 1660 1670 1680 2500 1900 Spring Spring Spring Spring Spring Spring Spring Spring Fall Catch per Area (kg/km^2) 1690 1700 1710 1720 1730 1740 1750 1760 1010 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1020 1030 1070 1040 1050 1060 1080 1090 1100 **>**2 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1110 1160 1120 1130 1140 1150 1170 1180 1190 ı ı 1 1 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1620 1630 1640 1650 1660 1670 1680 1690 1700 **75** 0.020242730.020242730.020242730.02024273 Fall Fall Fall Fall Fall 1730 1710 1720 1740 1760 0.020242730.020242730.020242730.020242730.020242730 wing_area_swept

Ssilverhake 2011 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring Spring 1060 1010 1020 1030 1040 1050 1070 1080 1090 2888 <u>1</u> ı 1 ı Spring Spring Spring Spring Spring Spring Spring Spring Spring 1100 1110 1120 1130 1140 1150 1160 1170 1180 9888 2888 Spring Spring Spring Spring Spring Spring Spring Spring Spring 1190 1610 1620 1630 1640 1650 1660 1670 1680 9888 2888 Spring Spring Spring Spring Spring Spring Spring Spring Fall Catch per Area (kg/km^2) 1690 1700 1710 1720 1730 1740 1750 1760 1010 6000 2008 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1020 1030 1080 1050 1060 1070 1090 1100 1110 \$888 2888 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1120 1170 1130 1140 1150 1160 1180 1190 1620 1 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1630 1640 1650 1660 1670 1680 1690 1700 1710 6000 2000 0.020.025 0.020.025 0.020.025 0.020.025 Fall Fall Fall Fall Fall 1720 1730 1740 1750 1760 0.020.025 0.020.025 0.020.025 0.020.025 0.020.025 wing_area_swept

Ssilverhake 2012 Case 2 (Without Zeros, With Fills) Winner = Standard



Ssilverhake 2013 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring Spring 1060 1010 1020 1030 1040 1050 1070 1080 1090 2000 -1 1 Spring Spring Spring Spring Spring Spring Spring Spring Spring 1100 1110 1120 1130 1140 1150 1160 1170 1180 2000 Spring Spring Spring Spring Spring Spring Spring Spring Spring 1190 1610 1620 1630 1640 1650 1660 1670 1680 9000 2000 Spring Spring Spring Spring Spring Spring Spring Spring Fall Catch per Area (kg/km^2) 1690 1700 1710 1720 1730 1740 1750 1760 1010 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1020 1030 1080 1050 1060 1070 1090 1100 1110 2000 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1130 1180 1140 1150 1160 1170 1190 1610 1620 2000 2000 1 T. Fall Fall Fall Fall Fall Fall Fall Fall Fall 1630 1640 1650 1660 1670 1680 1690 1700 1710 9999 2008 0.02002240280.02002240280.02002240280.02002240280.02002240280.0200224028 Fall Fall Fall Fall 1720 1730 1740 1760 9888 2888 0.020002240280.020002240280.020002240280.02000224028

wing_area_swept

Ssilverhake 2014 Case 2 (Without Zeros, With Fills) Winner = Standard

		Spring	Spring	Spring	Spring	Spring	Spring	Spring	Spring
Catch per Area (kg/km^2)		1010	1020	1030	1040	1050	1060	1070	1080
	7888	1	1	1	!				1
		Spring	Spring	Spring	Spring	Spring	Spring	Spring	Spring
		1090	1100	1110	1120	1130	1140	1150	1160
	2 888				I les	4			
		Spring	Spring	Spring	Spring	Spring	Spring	Spring	Spring
		1170	1180	1190	1690	1700	1710	1720	1730
	7888	1	1 4		1			1	
		Spring	Spring	Spring	Fall	Fall	Fall	Fall	Fall
		1740	1750	1760	1010	1020	1030	1040	1050
	2 888		1	1	1		1	1	
		Fall	Fall	Fall	Fall	Fall	Fall	Fall	Fall
		1060	1070	1080	1090	1100	1110	1120	1130
	1 888	l I	1						
		Fall	Fall	Fall	Fall	Fall	Fall	Fall	Fall
		1140	1150	1160	1170	1180	1190	1620	1630
	2 888 <u>=</u>		1		1	-100			
		Fall	Fall	Fall	Fall	Fall	Fall	Fall	Fall
		1640	1650	1660	1670	1680	1690	1700	1710
	7888								l'a
	Ĭ	Fall	Fall	Fall	Fall	Fall	0.020002240228002	202002240228092	202002240228032
		1720	1730	1740	1750	1760			

wing_area_swept

Ssilverhake 2015 Case 2 (Without Zeros, With Fills) Winner = Standard

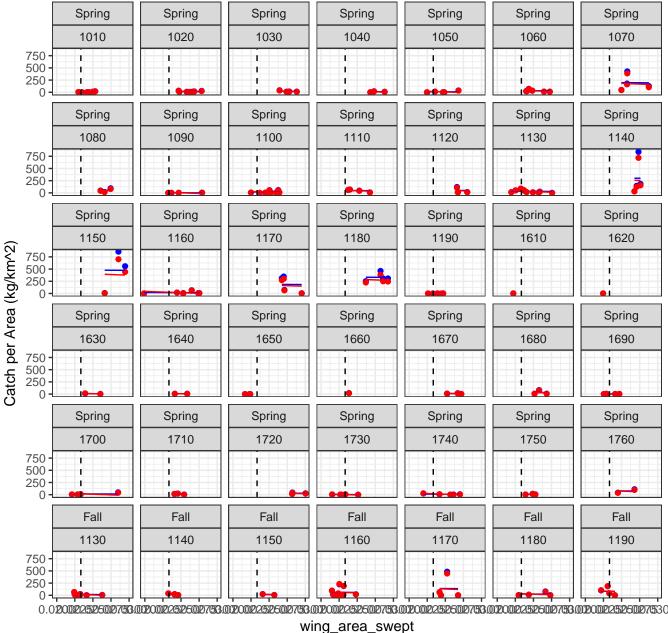


wing area swept

Ssilverhake 2016 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring Spring Spring 1060 1010 1020 1030 1040 1050 1070 1080 1090 1000 -1 -1 ı ı 1 ı Spring Spring Spring Spring Spring Spring Spring Spring Spring 1100 1160 1170 1110 1130 1140 1150 1180 1190 1000 Spring Spring Spring Spring Spring Spring Spring Spring Spring 1630 1640 1650 1660 1670 1680 1690 1700 1710 1000 Spring Spring Spring Spring Spring Fall Fall Fall Fall Catch per Area (kg/km^2) 1740 1720 1730 1750 1760 1010 1020 1030 1040 1988 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1060 1100 1050 1070 1080 1090 1110 1130 1140 18887 4 Т Fall Fall Fall Fall Fall Fall Fall Fall Fall 1150 1620 1160 1170 1180 1190 1630 1640 1650 1988 1 T т 1 Fall Fall Fall Fall Fall Fall Fall Fall Fall 1660 1670 1680 1690 1700 1710 1720 1730 1740 1988 1 Fall Fall 1750 1760 1988

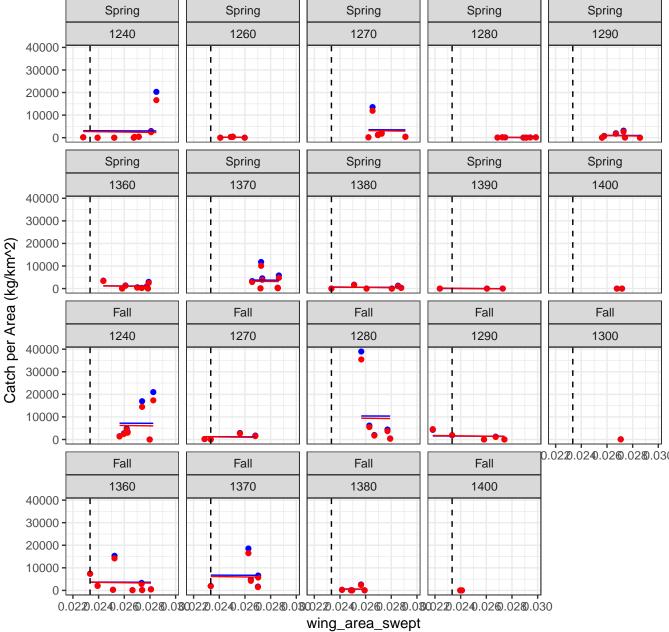
wing_area_swept

Ssilverhake 2017 Case 2 (Without Zeros, With Fills) Winner = Standard

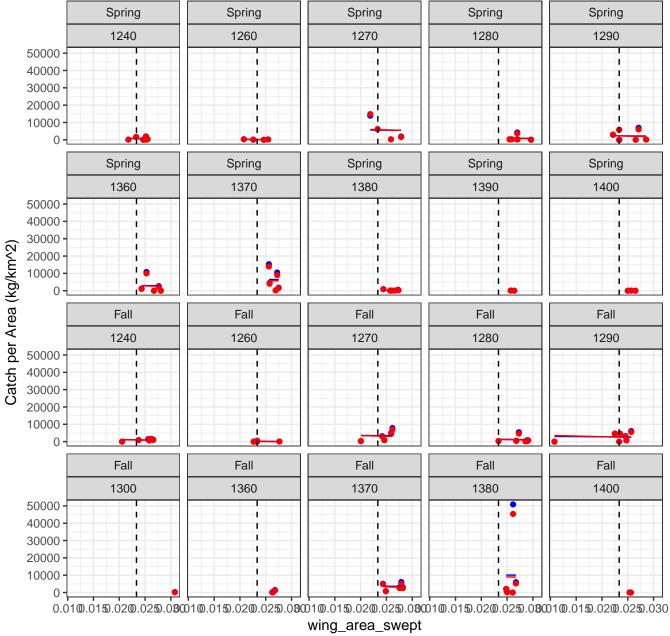


Redfish 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1240 1260 1270 1280 1290 10000 -5000 -Spring Spring Spring Spring Spring 1300 1360 1370 1380 1390 10000 -Ī 5000 0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall 1400 1240 1260 1270 1280 ı 10000 5000 -Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 10000 I 5000 0.0240.0260.0280.030 0.0240.0260.0280.030 0.0240.0260.0280.030 Fall Fall 1390 1400 10000 -I 5000 -0.0240.0260.0280.030 0.0240.0260.0280.030 wing_area_swept

Redfish 2010 Case 2 (Without Zeros, With Fills) Winner = Standard



Redfish 2011 Case 2 (Without Zeros, With Fills) Winner = Standard



Redfish 2012 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1280 1240 1260 1270 1290 20000 15000 -10000 -5000 -0 Spring Spring Spring Spring Spring 1300 1360 1370 1380 1390 20000 15000 -10000 -5000 -0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall 1400 1240 1260 1270 1280 20000 15000 -10000 -5000 -Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 20000 15000 -10000 -5000 -0 0.020 0.024 0.028 0.020 0.024 0.028 0.020 0.024 0.028 0.020 0.024 0.028 Fall 1390 20000 15000 10000 -5000 -0 -0.020 0.024 0.028 wing_area_swept

Redfish 2013 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1280 1240 1260 1270 1290 30000 -20000 10000 -0 -Spring Spring Spring Spring Spring 1300 1360 1370 1380 1390 30000 -20000 -10000 -0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall 1400 1240 1260 1270 1280 30000 -20000 ı 10000 -0 Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 30000 -20000 -10000 -0 0.021 0.024 0.027 0.021 0.024 0.027 0.021 0.024 0.027 Fall Fall 1390 1400 30000 -20000 10000 0.021 0.024 0.027 0.021 0.024 0.027 wing_area_swept

Redfish 2014 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1280 1240 1260 1270 1290 T 15000 ı 10000 -5000 -0 Spring Spring Spring Spring Spring 1300 1360 1370 1380 1390 I T 15000 -10000 -5000 -0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall 1400 1240 1260 1270 1280 ı 15000 ı 10000 -T 5000 -0 Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 15000 -10000 -5000 -0.0240.0270.030 0.0240.0270.030 0.0240.0270.030 0.0240.0270.030 Fall 1400 15000 -10000 -5000 -0 -0.0240.0270.030 wing_area_swept

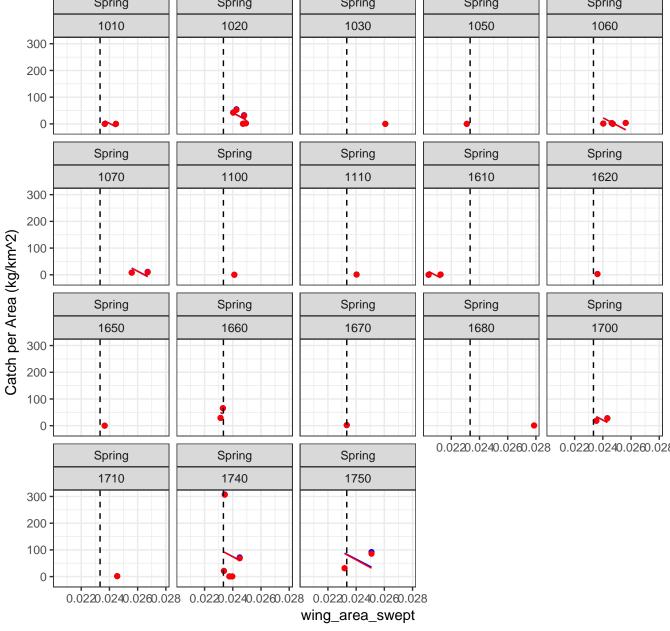
Redfish 2015 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1280 1240 1260 1270 1290 40000 30000 ı ī 20000 -10000 -Spring Spring Spring Spring Spring 1300 1360 1370 1380 1400 40000 30000 20000 -10000 0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall 1240 1260 1270 1280 1290 40000 30000 -20000 -10000 -Fall Fall Fall Fall Fall 1300 1360 1370 1380 1390 40000 30000 -20000 -10000 0 $0.02 \\ 0.02 \\ 0.02 \\ 0.02 \\ 0.03 \\ 0.03 \\ 0.02 \\ 0.02 \\ 0.02 \\ 0.03 \\ 0.03 \\ 0.03 \\ 0.02 \\ 0.02 \\ 0.02 \\ 0.02 \\ 0.03 \\ 0.03 \\ 0.03 \\ 0.03 \\ 0.02 \\ 0.02 \\ 0.02 \\ 0.03 \\ 0.03 \\ 0.03 \\ 0.03 \\ 0.02 \\ 0.02 \\ 0.03 \\$ Fall 1400 40000 30000 -20000 -10000 0.020.020.020.030.033 wing_area_swept

Redfish 2016 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1280 1240 1260 1270 1290 30000 1 ١ 20000 · Т Т 10000 0 Spring Spring Spring Spring Spring 1300 1360 1370 1380 1390 30000 1 20000 10000 -0 Catch per Area (kg/km^2) Spring Fall Fall Fall Fall 1400 1240 1260 1270 1280 30000 20000 1 10000 Fall Fall Fall Fall Fall 1290 1300 1360 1370 1380 30000 -1 20000 -10000 -0 0.02250250002750300 0.02250250002750300 0.0225025002750300 Fall Fall 1390 1400 30000 -20000 10000 0.02250250002750300 0.02250250002750300 wing_area_swept

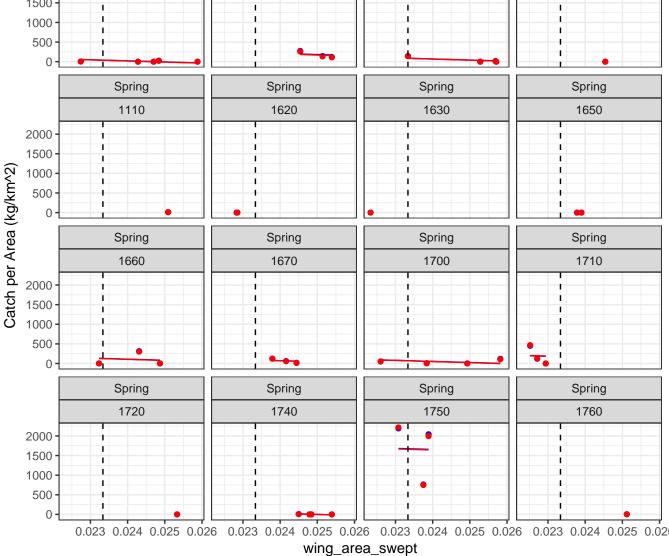
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BlackSeaBass 2009 Case 2 (Without Zeros, With Fills) Winner = Standard

Spring Spring Spring Spring

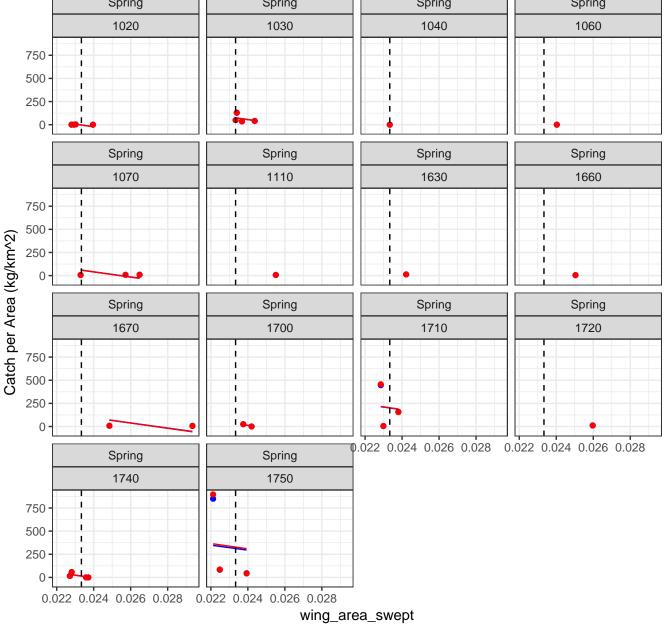


BlackSeaBass 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring 1030 1020 1070 1100 2000 1500 1000 500 Spring Spring Spring Spring 1110 1620 1630 1650 2000

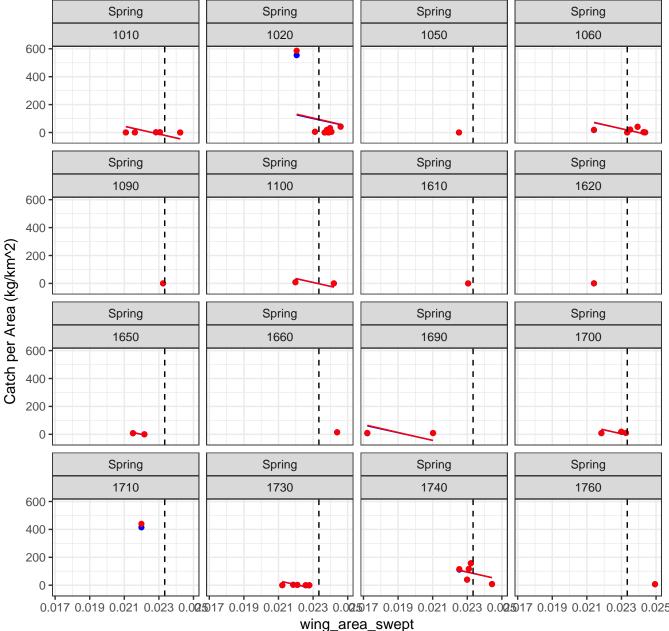


BlackSeaBass 2011 Case 2 (Without Zeros, With Fills) Winner = Standard

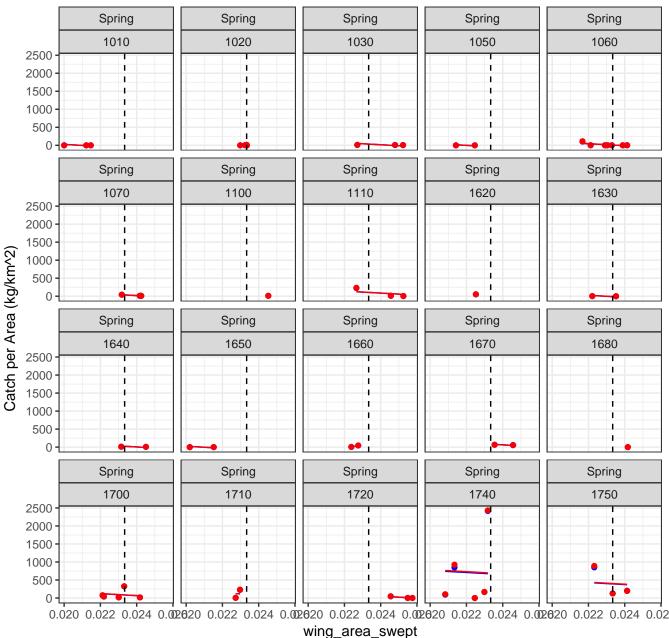
Spring Spring Spring Spring



BlackSeaBass 2012 Case 2 (Without Zeros, With Fills) Winner = Standard

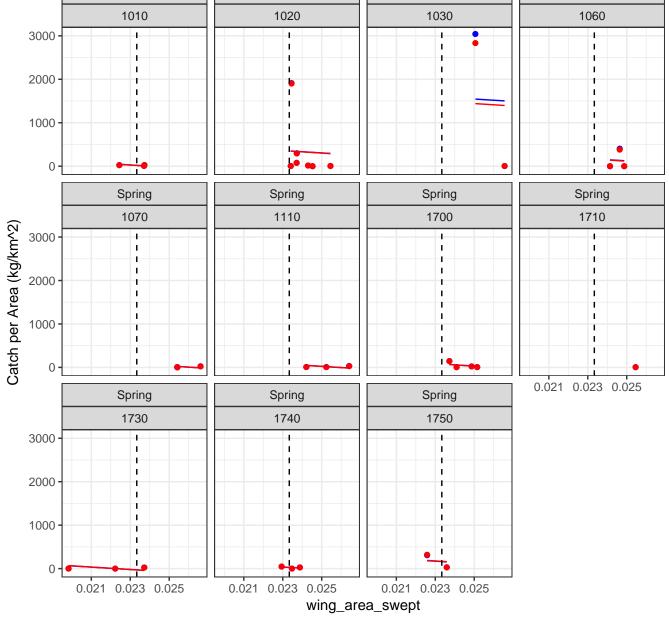


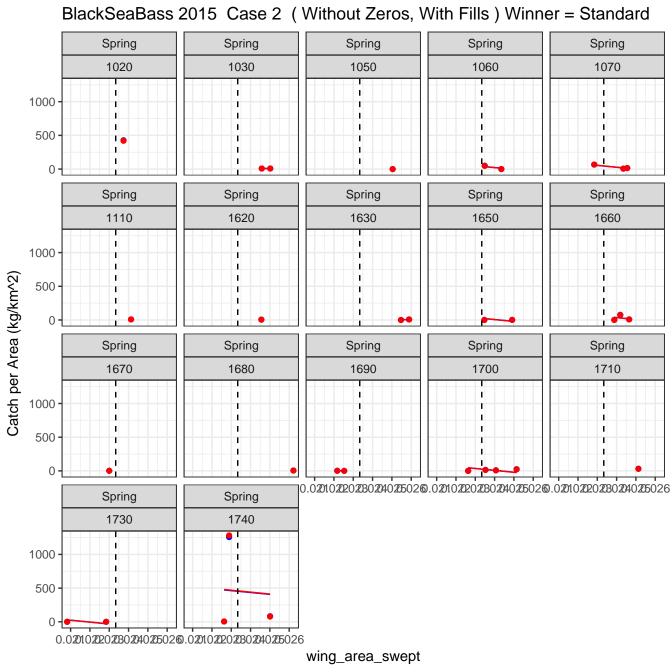
BlackSeaBass 2013 Case 2 (Without Zeros, With Fills) Winner = Standard



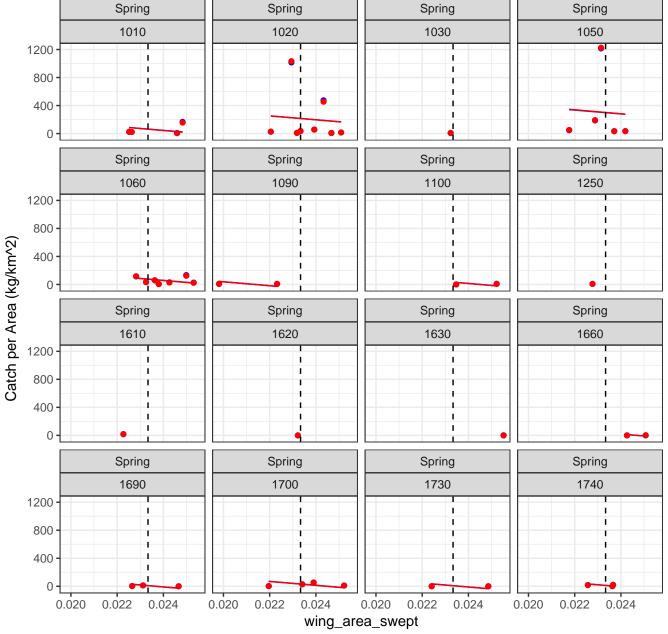
BlackSeaBass 2014 Case 2 (Without Zeros, With Fills) Winner = Standard

Spring Spring Spring Spring Spring 1010 1020 1030 1060





BlackSeaBass 2016 Case 2 (Without Zeros, With Fills) Winner = Standard



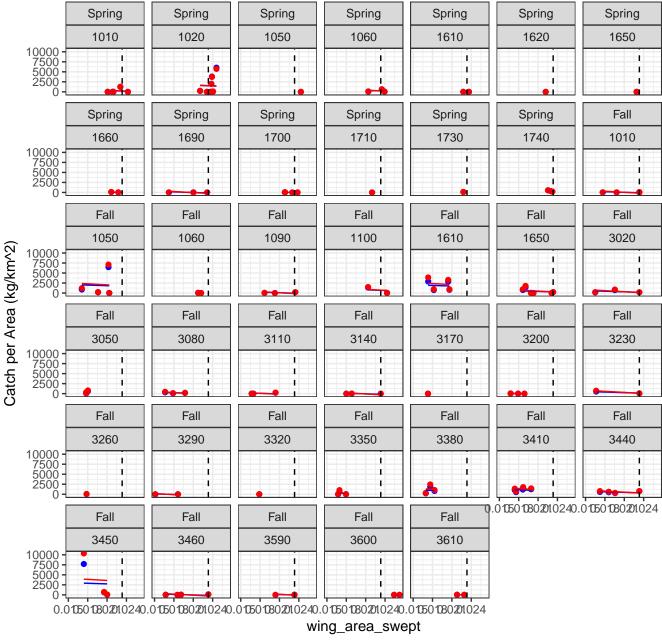
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Scup 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring 1020 1610 1620 1030 1040 1110 1660 20000 15000 -10000 -Spring Spring Spring Spring Fall Fall Fall 1670 1710 1740 1750 1010 1050 1090 20000 15000 10000 -Fall Fall Fall Fall Fall Fall Fall 1610 1620 1730 3020 1630 1650 1690 Catch per Area (kg/km^2) 20000 15000 10000 5000 Fall Fall Fall Fall Fall Fall Fall 3050 3080 3110 3140 3170 3200 3230 20000 15000 **-**10000 **-**5000 Fall Fall Fall Fall Fall Fall Fall 3260 3290 3320 3350 3380 3410 3440 20000 15000 -10000 -5000 0.019.020.023.025 Fall Fall Fall Fall Fall Fall 3610 3450 3460 3560 3590 3600 20000 15000 10000 5000 0.01 @.021.023.025.01 @.021.025.01 @.025.01 @.025.01 @.025.01 @.025.01 @.025.01wing_area_swept

Scup 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring 1020 1070 1610 1030 1040 1060 1620 Spring Spring Spring Spring Spring Spring Spring 1630 1640 1650 1660 1670 1680 1700 Spring Spring Spring Spring Fall Fall Fall 1710 1740 1750 1760 1010 1050 1060 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall Fall 1090 1100 1650 1690 3020 3080 1610 Fall Fall Fall Fall Fall Fall Fall 3110 3140 3170 3200 3230 3260 3290 Fall Fall Fall Fall Fall Fall Fall 3320 3450 3350 3380 3410 3440 3460 10.0082002224926008200222492600820022249260082002224926008200222492600820022249260082002224926008200222492600820022249260082002224926008200222492600820022249260082002224926008200222492600820082004 Fall 3560 0.008020022024026 wing_area_swept

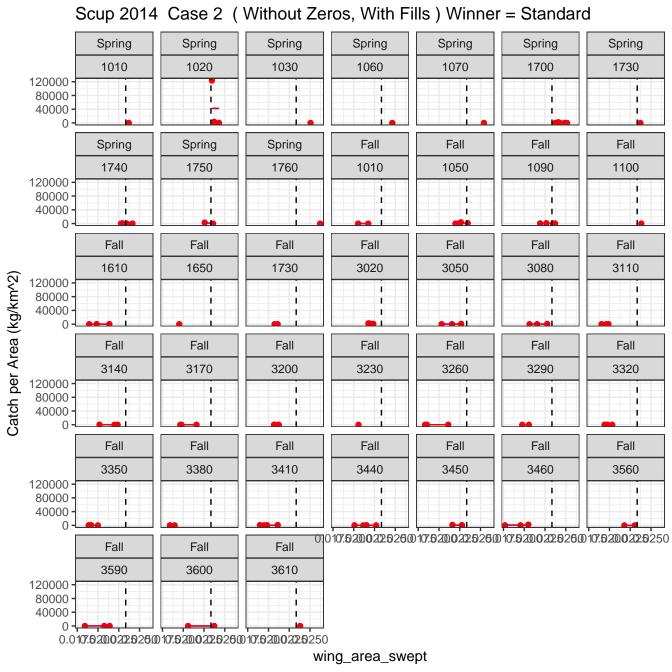


Scup 2012 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring



Scup 2013 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring 1020 1030 1040 1060 1070 1080 1610 6000 4000 2000 Spring Spring Spring Spring Spring Spring Spring 1620 1630 1650 1660 1670 1690 1700 6000 4000 2000 Spring Spring Spring Spring Fall Fall Fall 1710 1740 1750 1760 1050 1060 1090 Catch per Area (kg/km^2) 6000 4000 I 🌘 2000 0 Fall Fall Fall Fall Fall Fall Fall 1230 1250 1650 3020 3050 3080 3110 6000 4000 -2000 Fall Fall Fall Fall Fall Fall Fall 3140 3170 3200 3320 3350 3380 3410 6000 4000 2000 Fall Fall Fall Fall Fall Fall Fall 3440 3450 3460 3560 3590 3600 3610 6000 4000 2000 0.016.020.024.028016.020.024.020016.02

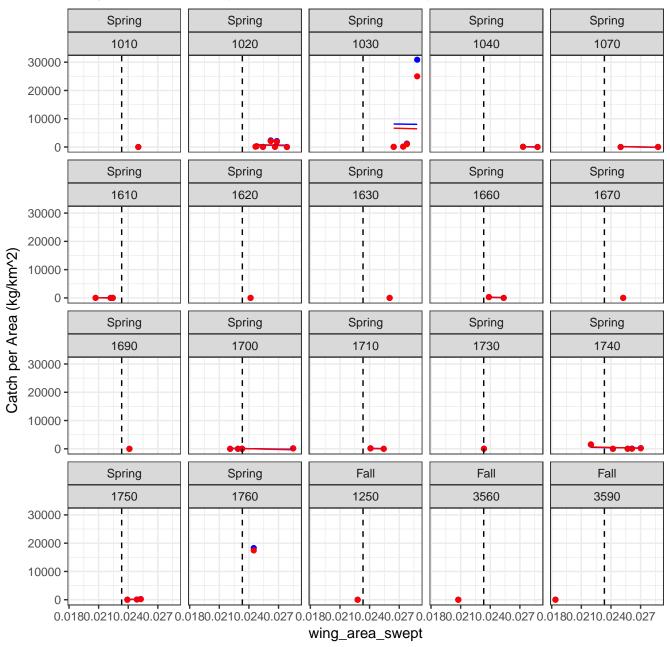
wing_area_swept



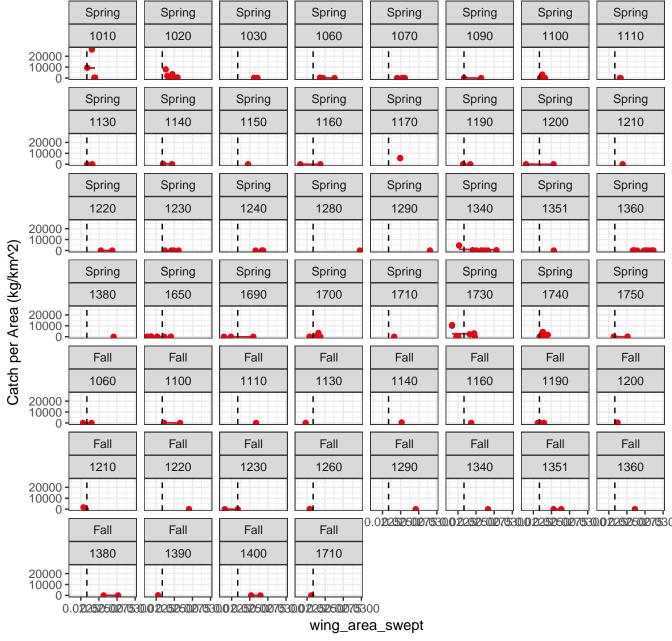
Scup 2015 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring 1010 1070 1620 1020 1030 1060 1660 30000 20000 10000 T T Г 0 Spring Spring Spring Spring Spring Fall Fall 1740 1670 1700 1750 1760 1010 1050 30000 20000 10000 -Fall Fall Fall Fall Fall Fall Fall 1090 1610 1650 1690 3020 3050 3080 Catch per Area (kg/km^2) 30000 • T ı 20000 -10000 0 Fall Fall Fall Fall Fall Fall Fall 3110 3170 3140 3200 3230 3260 3290 30000 20000 -10000 0 Fall Fall Fall Fall Fall Fall Fall 3320 3350 3380 3410 3440 3450 3460 30000 20000 -10000 -0 0.01.**82.02.22.4**260.01.**82.02.22.4**260.01.**82.02.22.4**260.01.**82.02.22.4**26 Fall Fall Fall 3560 3590 3600 30000 20000 -10000 0.01.82.02224260.01.82.022224260.01.82.02222426 wing_area_swept

Scup 2016 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring Spring 1010 1060 1090 1100 1020 1050 1610 Spring Spring Spring Spring Spring Spring Spring 1630 1650 1660 1670 1680 1700 1710 Spring Spring Fall Fall Fall Fall Fall 1740 1750 1010 1050 1060 1090 1100 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall Fall 1250 1610 1650 1690 3020 3050 3080 Fall Fall Fall Fall Fall Fall Fall 3110 3140 3290 3170 3230 3260 3320 Fall Fall Fall Fall Fall Fall Fall 3350 3380 3460 3410 3440 3450 3560 ı 0.00802002224 0.00802002224 0.008020022240.008020022024 0.008020022024 Fall Fall 3590 3600 0.008020022024 0.008020022024 wing_area_swept

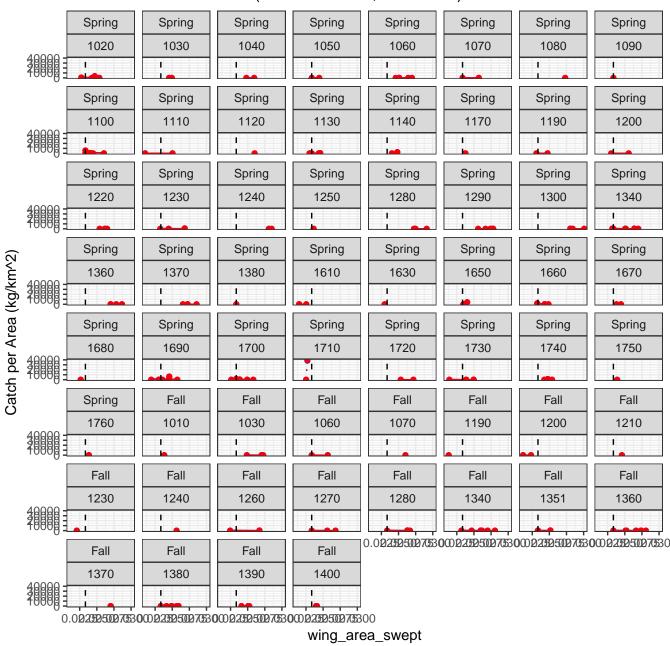
Scup 2017 Case 2 (Without Zeros, With Fills) Winner = Standard



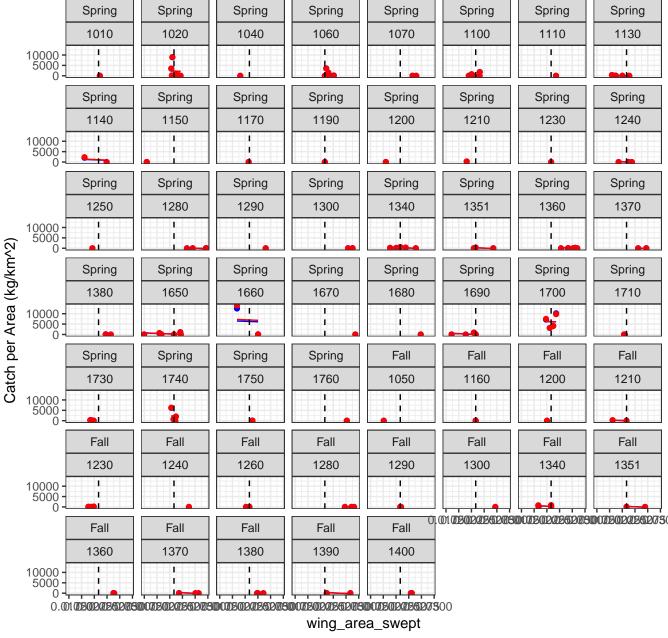
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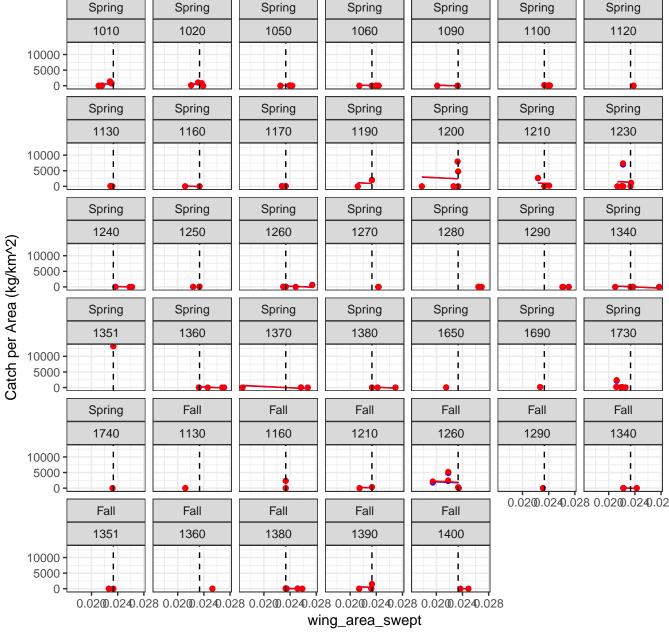
Mackerel 2010 Case 2 (Without Zeros, With Fills) Winner = Standard



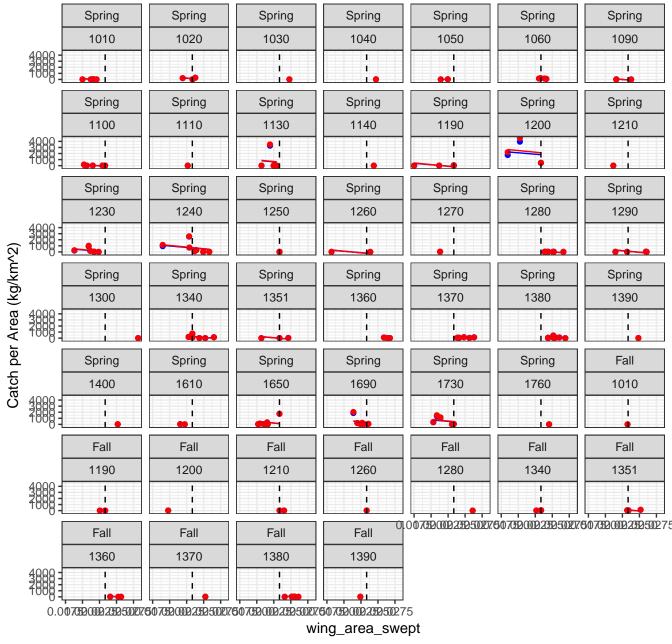
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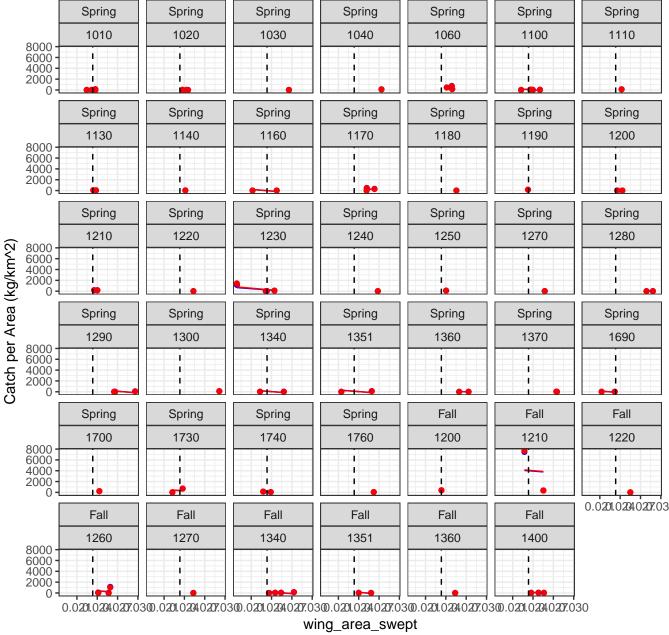
Mackerel 2012 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring



Mackerel 2013 Case 2 (Without Zeros, With Fills) Winner = Standard



Mackerel 2014 Case 2 (Without Zeros, With Fills) Winner = Standard



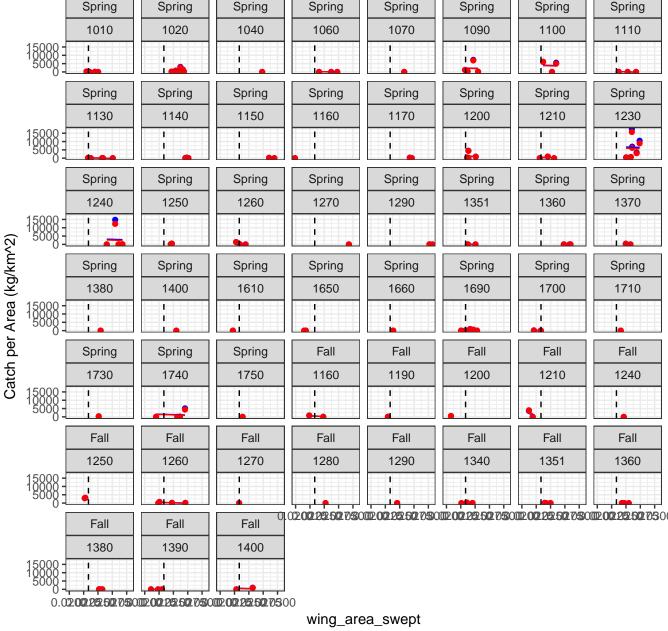
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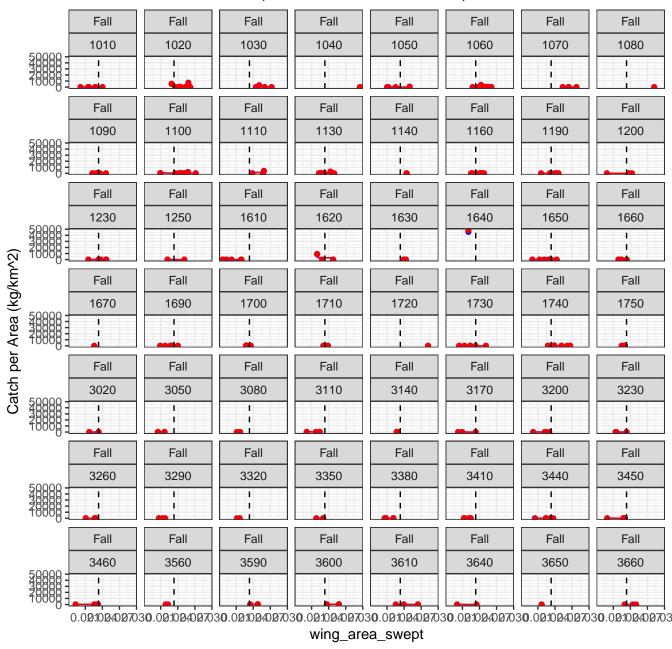
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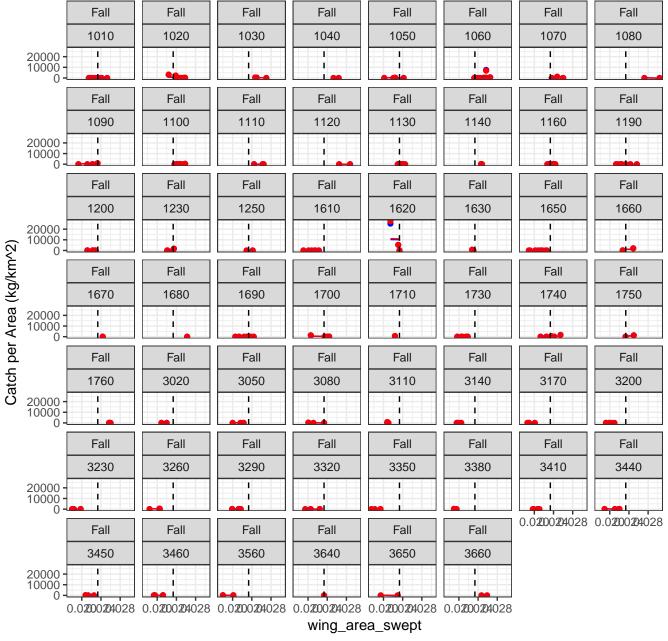
Mackerel 2017 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spr



Butterfish 2009 Case 2 (Without Zeros, With Fills) Winner = Standard



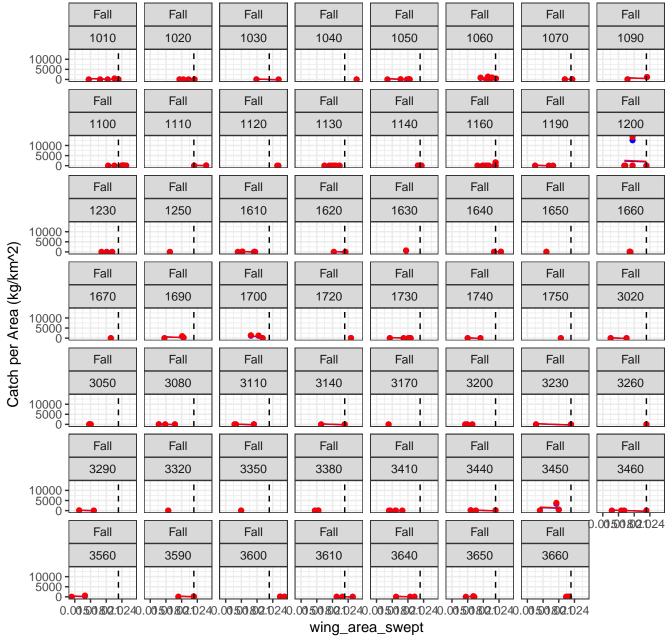
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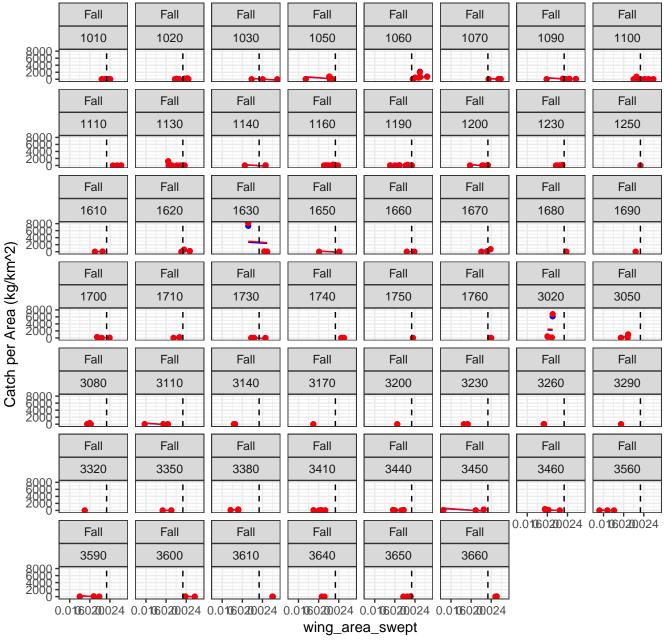
Butterfish 2011 Case 2 (Without Zeros, With Fills) Winner = Standard

	Fall							
	1010	1020	1030	1040	1050	1060	1070	1080
1e+05 5e+04 0e+00		1	1	1	1	1	1	1
	Fall							
	1090	1100	1110	1120	1130	1140	1160	1190
1e+0: 5e+0: 0e+0:		1	1	1	1	1	1	1
	Fall							
	1200	1230	1250	1610	1620	1630	1640	1650
1e+05 5e+04 0e+00				1				1
/km	Fall							
(kg	1660	1670	1680	1690	1700	1710	1730	1740
Catch per Area (kg/km^2) 6+90 6+90 6+90 6+90 6+90 6+90								
ed u	Fall							
atch	1750	3020	3050	3080	3110	3140	3170	3200
O 1e+05 5e+04 0e+00				1	1	1	1	1
	Fall							
	3230	3260	3290	3320	3350	3380	3410	3440
1e+05 5e+04 0e+00		1		1		1	1	1
	Fall							
	3450	3460	3590	3600	3610	3640	3650	3660
1e+05 5e+04 0e+00				1	1	1	1	
0.020.025								

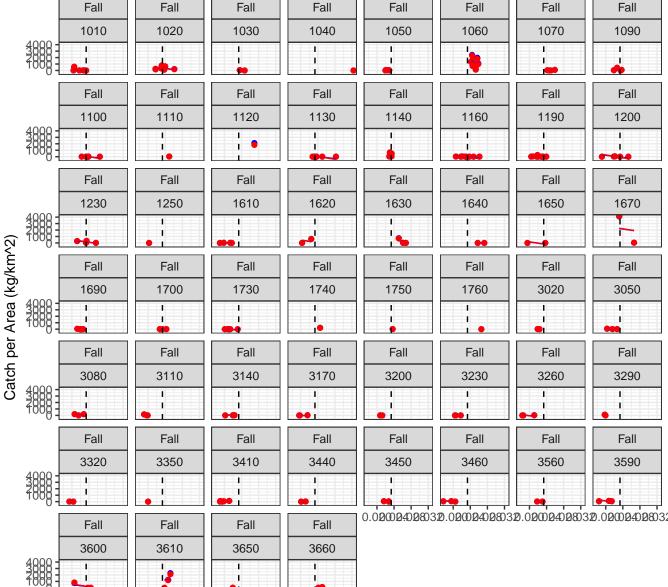
Butterfish 2012 Case 2 (Without Zeros, With Fills) Winner = Standard



Butterfish 2013 Case 2 (Without Zeros, With Fills) Winner = Standard



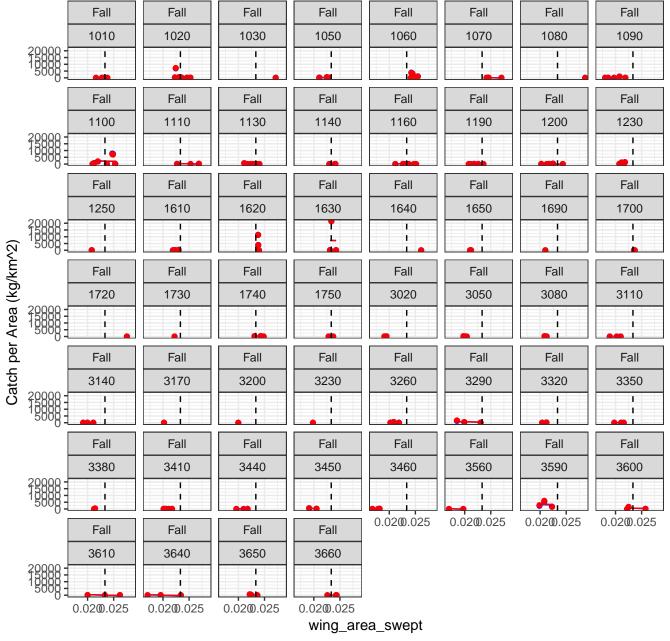
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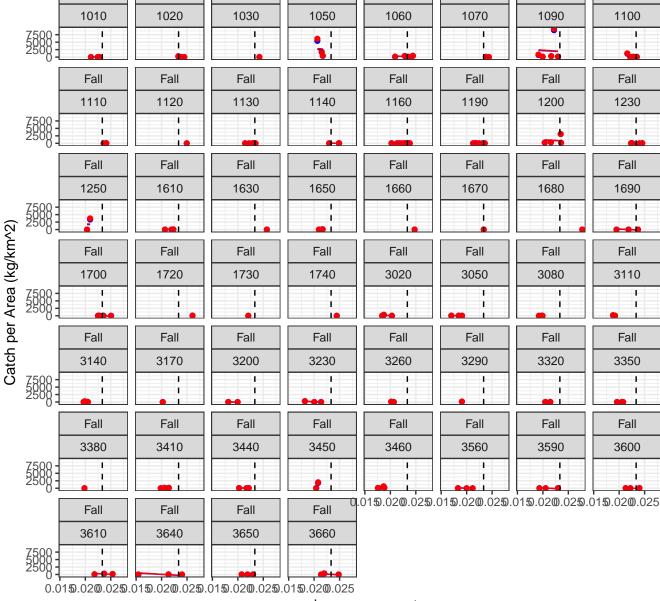
wing_area_swept

Butterfish 2015 Case 2 (Without Zeros, With Fills) Winner = Standard

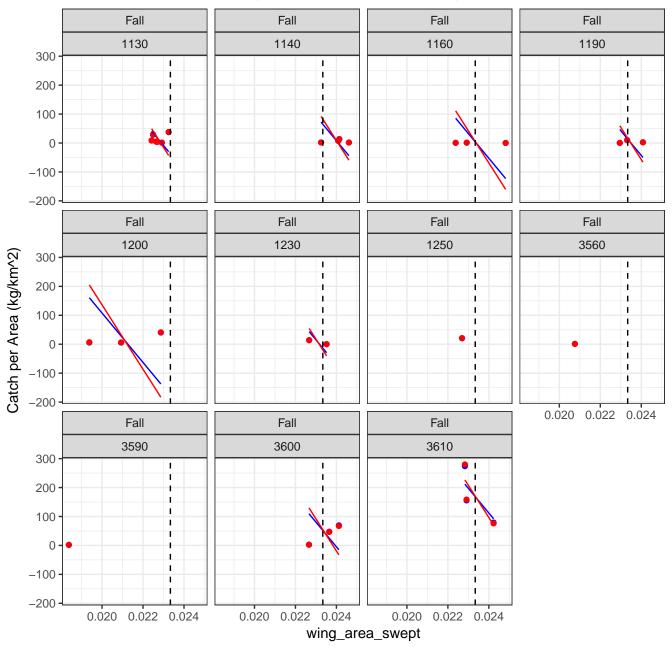


Butterfish 2016 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall Fall Fall Fall Fall Incompany of the property of the propert

Fall



Butterfish 2017 Case 2 (Without Zeros, With Fills) Winner = Standard



Nwindow 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall 1130 1160 1190 1200 600 -400 200 0 Fall Fall Fall Fall 1210 1220 1230 1250 600 400 Catch per Area (kg/km^2) 200 Fall Fall Fall Fall 1260 1390 3600 3610 600 400 200 0 0.020 0.022 0.024 0.026 0.020 0.022 0.024 0.026 Fall Fall 3660 3650 600 400 200 0.020 0.022 0.024 0.026 0.020 0.022 0.024 0.026

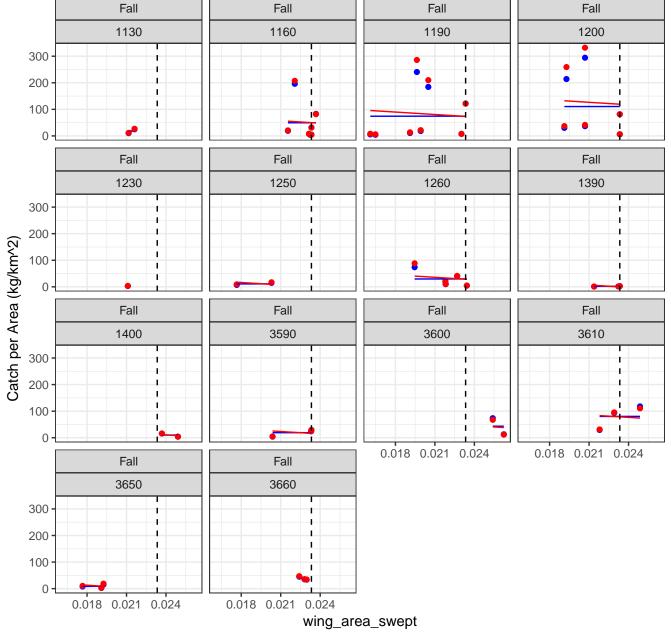
wing_area_swept

Nwindow 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall 1130 1160 1200 1190 200 150 -100 50 -0 Fall Fall Fall Fall 1230 1260 1390 1400 Catch per Area (kg/km^2) 200 150 -100 50 0.021 0.023 0.025 0.027 0.021 0.023 0.025 0.02 Fall Fall 3650 3660 200 150 100

50 0 -0.021 0.023 0.025 0.027 0.021 0.023 0.025 0.027 wing_area_swept

Nwindow 2011 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall 1160 1200 1130 1190 300 -200 100 0 -Fall Fall Fall Fall 1230 1260 1390 1400 300 200 Catch per Area (kg/km^2) 100 Fall Fall Fall Fall 3590 3600 3610 3650 300 200 100 0 0.0180.0200.0220.024 0.0180.0200.0220.024 0.0180.0200.0220.024 Fall 3660 300 200 100 0 0.0180.0200.0220.024 wing_area_swept

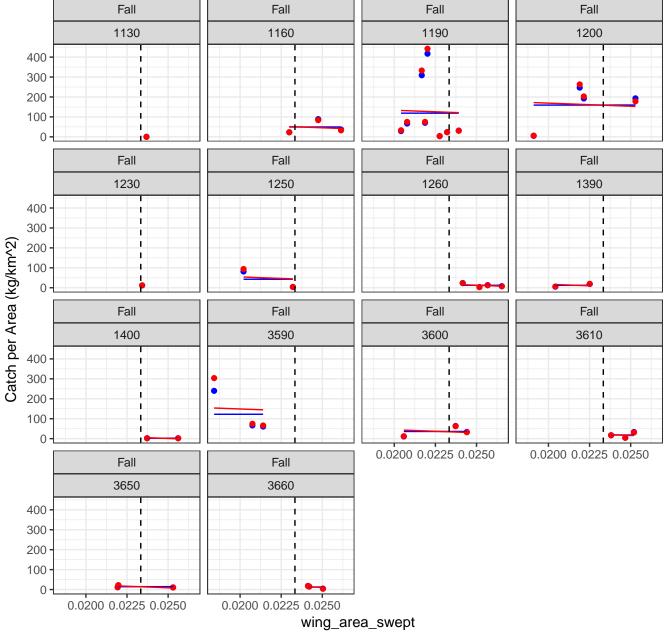
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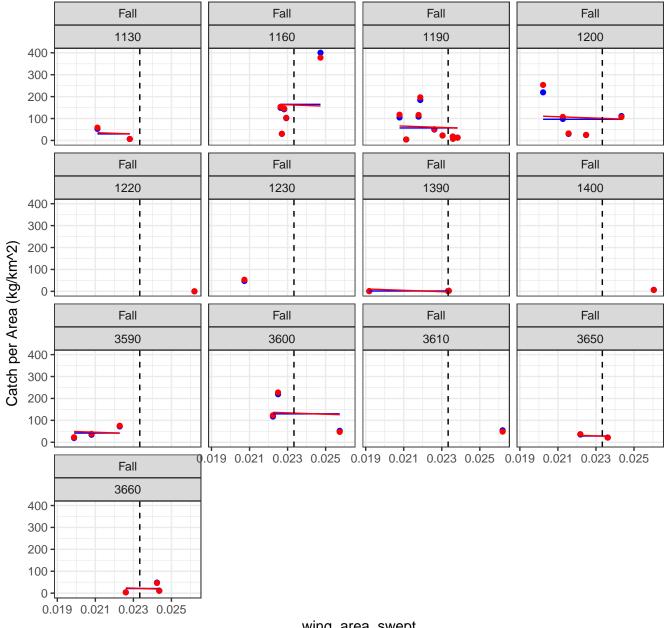
Nwindow 2013 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall 1130 1200 1160 1190 ı 900 ı 600 300 0 Fall Fall Fall Fall 1210 1230 1250 1260 900 600 Catch per Area (kg/km^2) 300 Fall Fall Fall Fall 1380 1390 3590 3600 900 1 т 600 Т 300 0 D.018 0.020 0.022 0.024 0.026 Fall Fall Fall 3650 3660 3610 900 1 600 300 0.018 0.020 0.022 0.024 0.026.018 0.020 0.022 0.024 0.026.018 0.020 0.022 0.024 0.026

wing_area_swept

Nwindow 2014 Case 2 (Without Zeros, With Fills) Winner = Standard

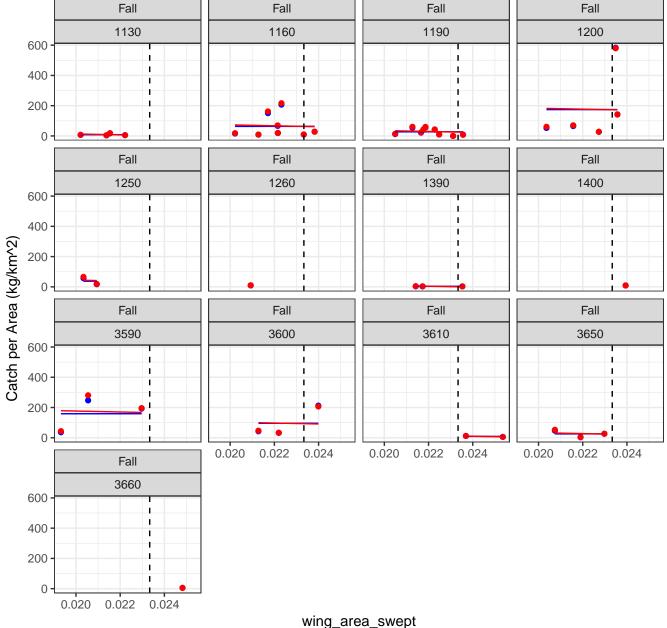


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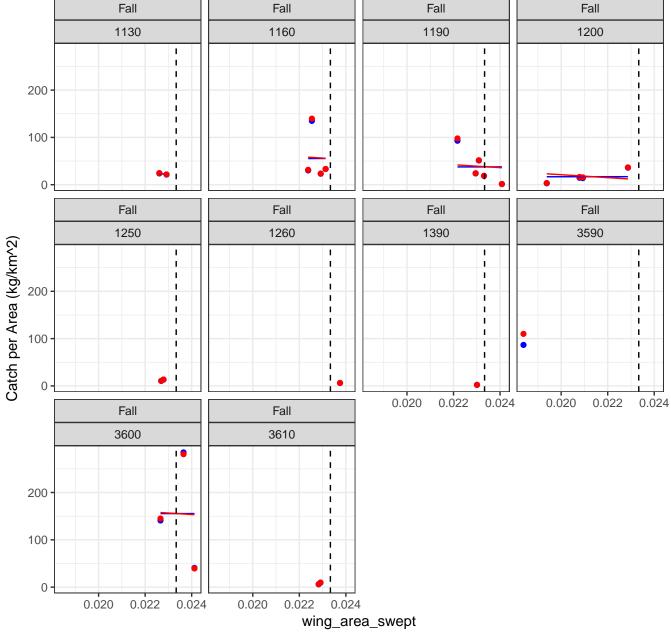


wing_area_swept

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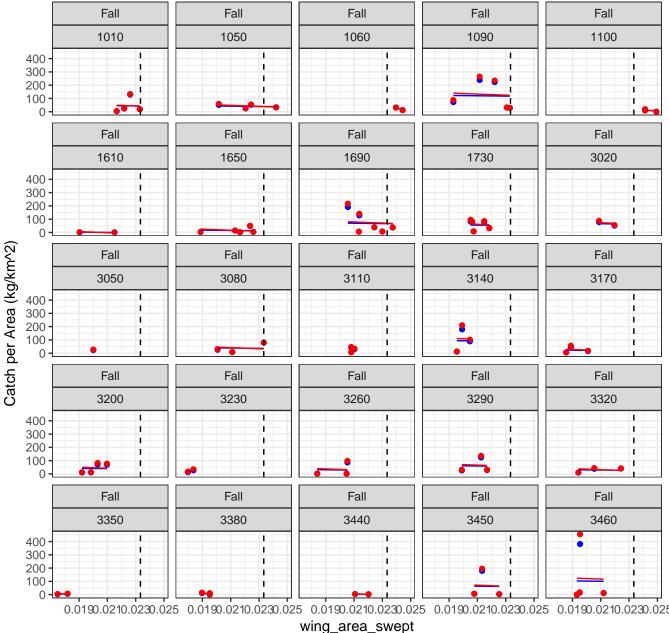


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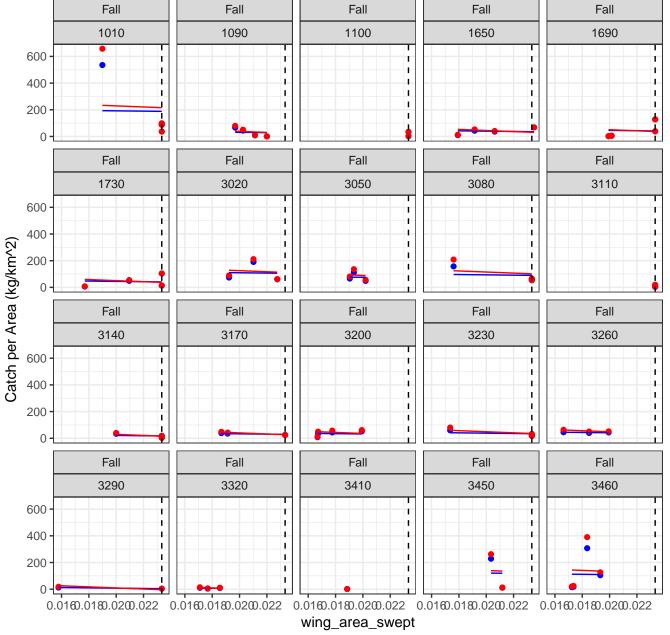


Swindow 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall 1010 1050 1090 1100 1650 200 100 0 Fall Fall Fall Fall Fall 1690 1730 3020 3050 3080 200 100 0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall 3110 3140 3170 3200 3230 200 100 Fall Fall Fall Fall Fall 3260 3290 3320 3350 3380 200 100 0 TOLO 090 200 210 220 230 240 25 090 200 210 220 230 240 25 Fall Fall Fall 3410 3450 3460 200 100 $0.0 \, 090 \, 200 \, 210 \, 220 \, 230 \, 240 \, 2.5 \, 090 \, 200 \, 210 \, 220 \, 230 \, 240 \, 2.5 \, 090 \, 200 \, 210 \, 220 \, 230 \, 240 \, 2.5$ wing_area_swept

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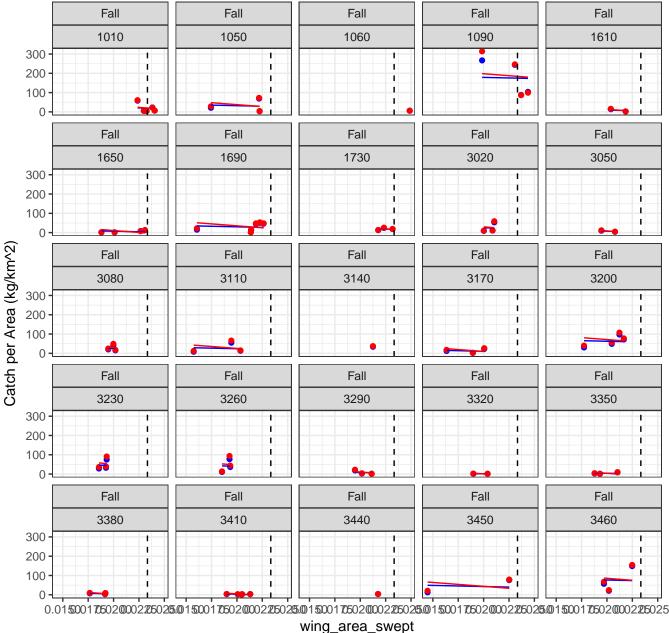


Swindow 2011 Case 2 (Without Zeros, With Fills) Winner = Standard



Swindow 2012 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall 1010 1050 1090 1610 1650 600 400 200 Fall Fall Fall Fall Fall 1690 1700 1730 3020 3050 600 400 200 0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall 3080 3110 3140 3170 3200 600 400 200 Fall Fall Fall Fall Fall 3230 3260 3290 3320 3350 600 400 200 0 0.0160.0180.0200.022 0.0160.0180.0200.022 Fall Fall Fall 3380 3410 3450 600 400 200 0.0160.0180.0200.022 0.0160.0180.0200.022 0.0160.0180.0200.022 wing_area_swept

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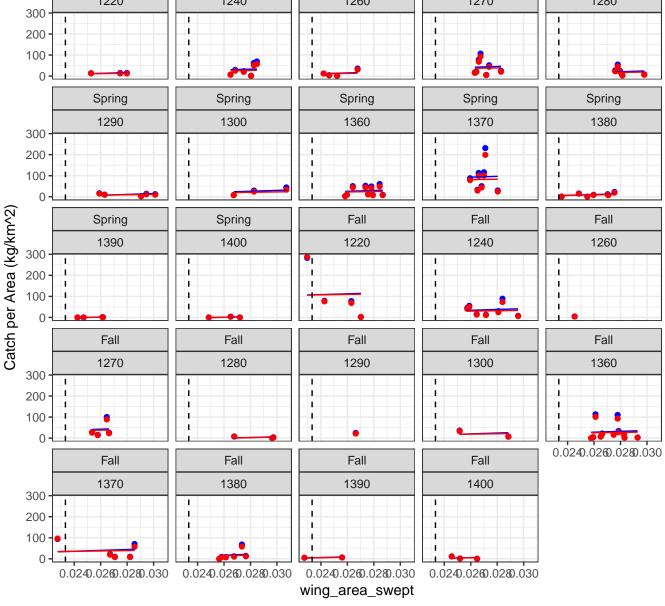
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Swindow 2015 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall 1020 1050 1010 1090 1100 200 100 Fall Fall Fall Fall Fall 1730 1650 1690 3020 3050 200 100 0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall 3080 3110 3140 3170 3200 200 100 Fall Fall Fall Fall Fall 3260 3290 3320 3350 3450 200 100 0]0.018 0.020 0.022 0.0**2**4018 0.020 0.022 0.0**2**4018 0.020 0.022 0.024018 0.020 0.022 0.02 Fall 3460 200 100 0.018 0.020 0.022 0.024 wing_area_swept

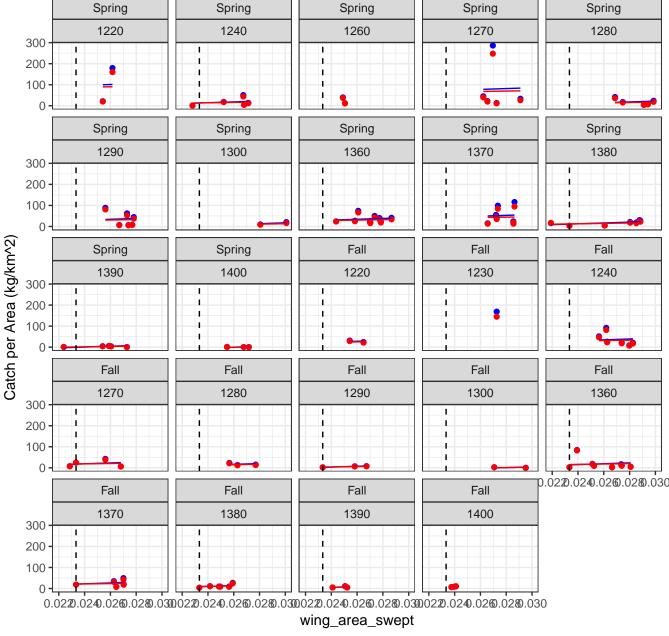
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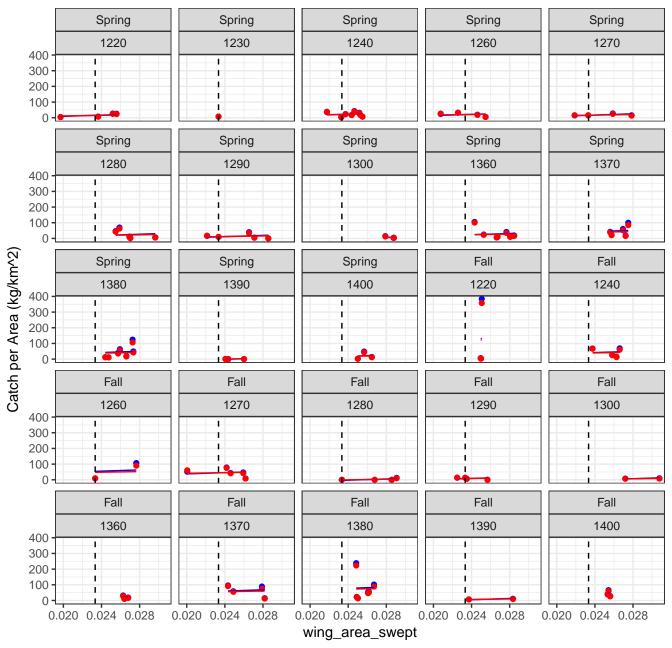
Spring Spring Spring Spring Spring Spring 1220 1240 1260 1270 1280



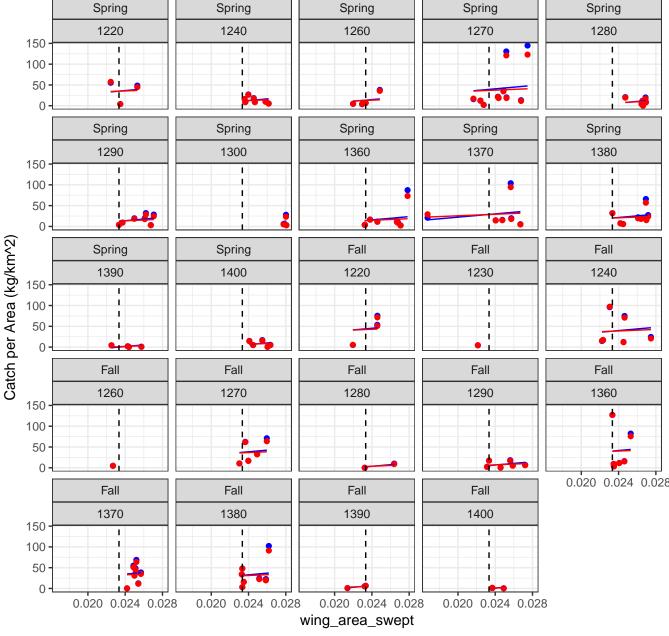
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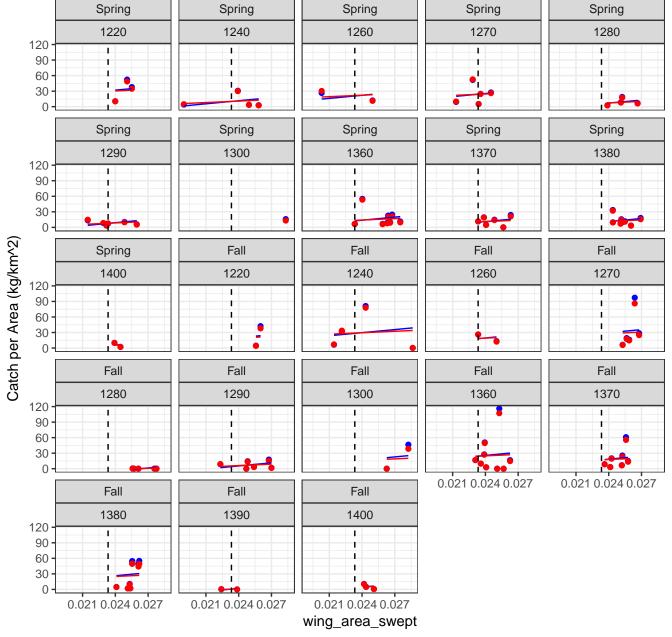
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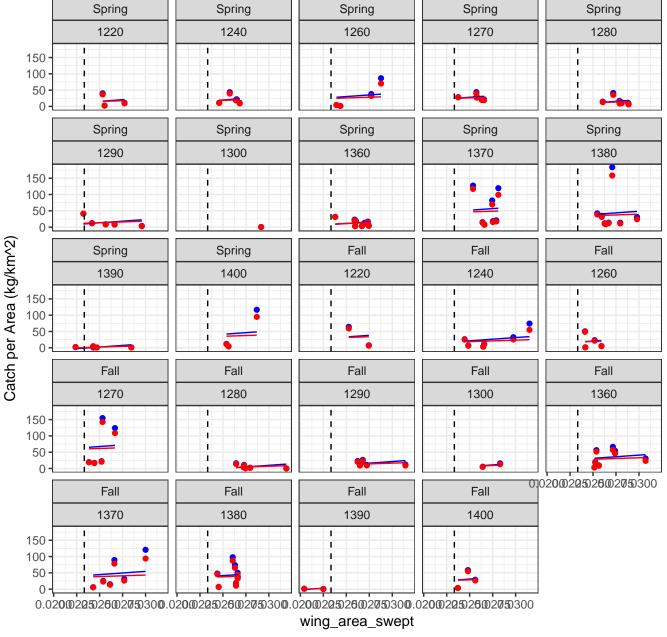
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Witch 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread

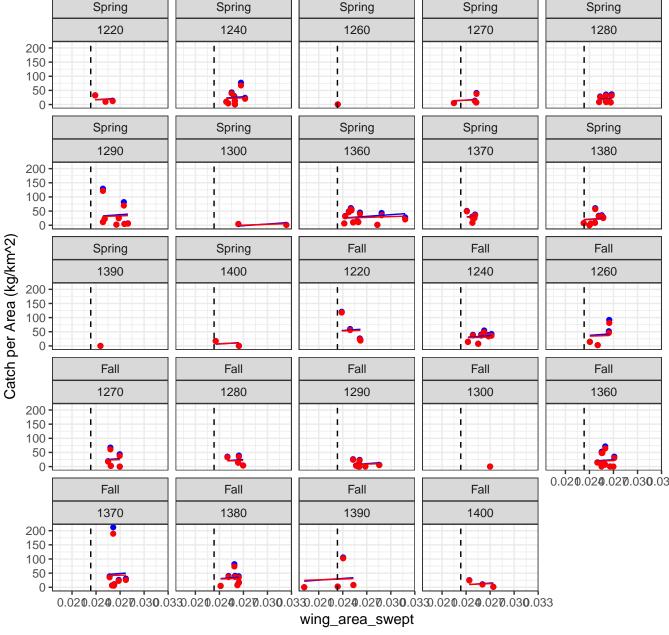


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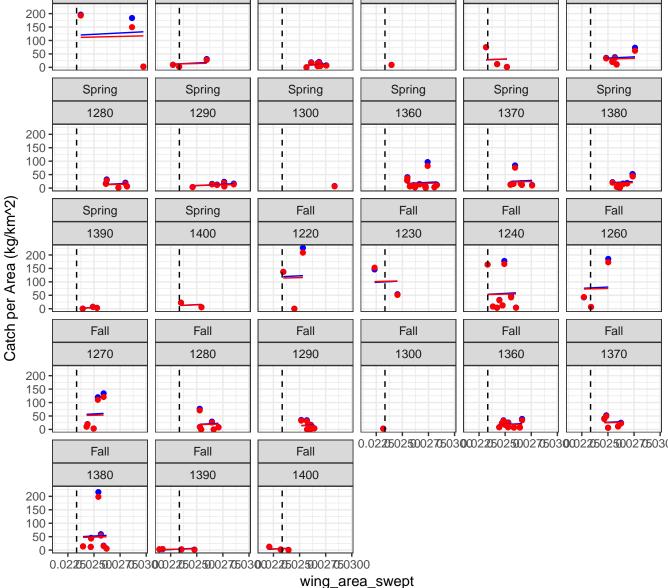


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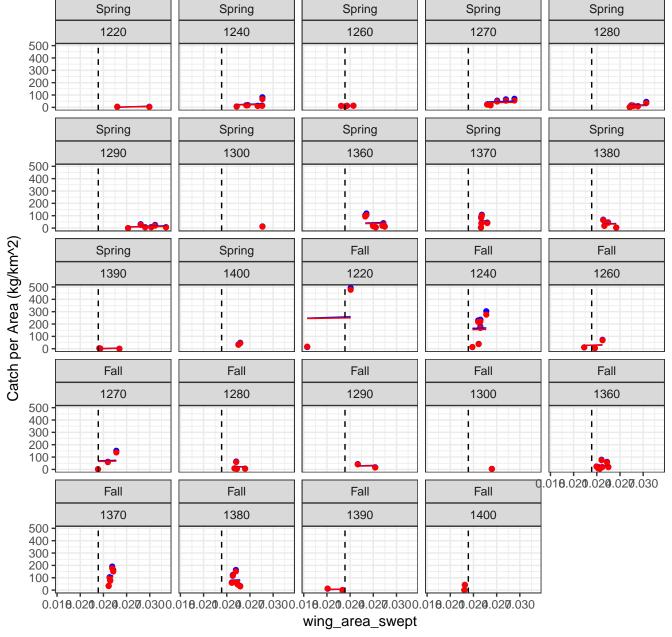
Spring Spring Spring Spring Spring



Witch 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring



Witch 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread



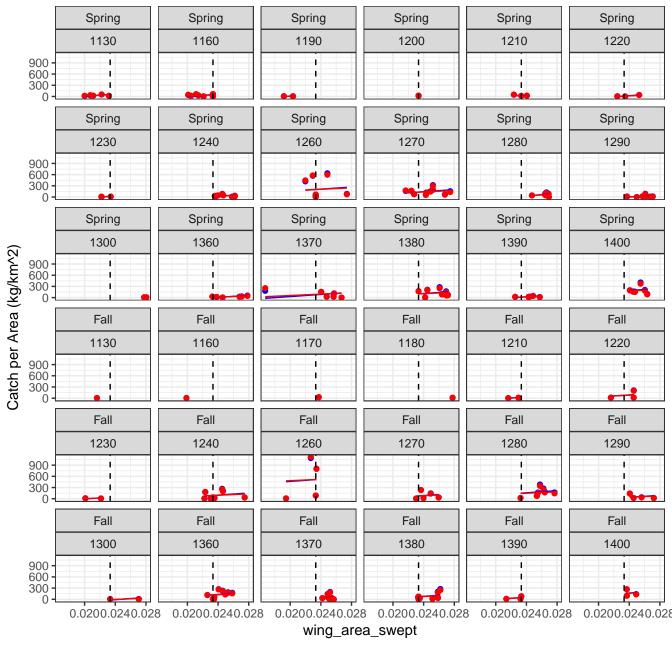
Plaice 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1160 1190 1200 1210 1220 1230 1000 750 500 250 Spring Spring Spring Spring Spring Spring 1240 1260 1270 1280 1290 1300 1000 750 500 250 Spring Spring Spring Spring Spring Fall 1360 1370 1380 1390 1400 1130 1000 750 500 Catch per Area (kg/km^2) 250 0 Fall Fall Fall Fall Fall Fall 1160 1170 1200 1220 1190 1230 1000 750 500 250 Fall Fall Fall Fall Fall Fall 1240 1250 1260 1270 1280 1290 1000 750 500 250 Fall Fall Fall Fall Fall Fall 1300 1360 1370 1380 1390 1400 1000 750 500 250 wing_area_swept

Plaice 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring 1130 1160 1170 1180 1190 1200 1210 900 600 300 Spring Spring Spring Spring Spring Spring Spring 1220 1230 1240 1260 1270 1280 1290 900 600 300 Spring Spring Spring Spring Spring Spring Fall 1300 1360 1370 1380 1390 1400 1130 Catch per Area (kg/km^2) 900 300 0 Fall Fall Fall Fall Fall Fall Fall 1160 1180 1210 1220 1230 1240 1260 900 600 300 0 Fall Fall Fall Fall Fall Fall Fall 1270 1280 1290 1300 1360 1370 1380 900 600 300 Fall Fall 1390 1400 900 300 0.022625027.6300.022625027.6300

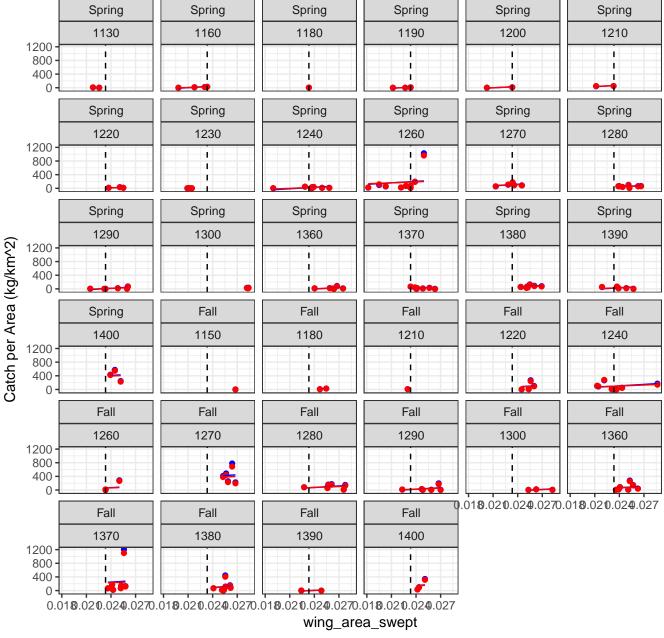
wing_area_swept

Plaice 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1130 1160 1190 1200 1220 1210 1000 -500 Spring Spring Spring Spring Spring Spring 1230 1240 1260 1270 1280 1290 1000 500 Spring Spring Spring Spring Spring Fall 1360 1370 1380 1390 1400 1160 Catch per Area (kg/km^2) 1000 500 Fall Fall Fall Fall Fall Fall 1170 1180 1220 1230 1240 1260 1000 500 Fall Fall Fall Fall Fall Fall 1270 1280 1290 1300 1360 1370 1000 500 0 T01.010.016.020.026.030010.016.020.026.030010.016.020.026.03 Fall Fall Fall 1380 1390 1400 1000 500 $0.01 \\ 0.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.02 \\ 0.02 \\ 6.03 \\ 010.01 \\ 6.03 \\ 0.03$ wing_area_swept

Plaice 2012 Case 2 (Without Zeros, With Fills) Winner = WingSpread

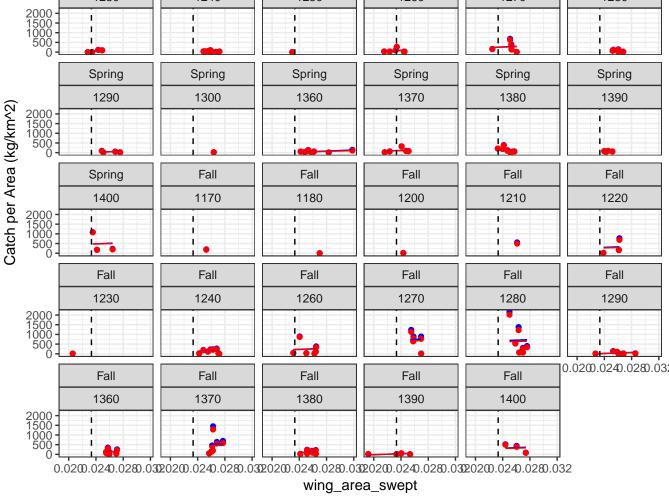


Plaice 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Plaice 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1130 1200 1220 1160 1190 1210 Spring Spring Spring Spring Spring Spring 1230 1240 1260 1270 1280 1290 Spring Spring Spring Spring Spring Fall 1360 1370 1380 1390 1400 1130 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall 1160 1180 1210 1220 1230 1240 Fall Fall Fall Fall Fall Fall 1250 1260 1270 1280 1290 1300 0.0201.02040207.030 Fall Fall Fall Fall Fall 1360 1370 1380 1390 1400 0.020102040207.030 0.020102040207.030 0.020102040207.030 0.020102040207.030 0.020102040207.030 wing_area_swept

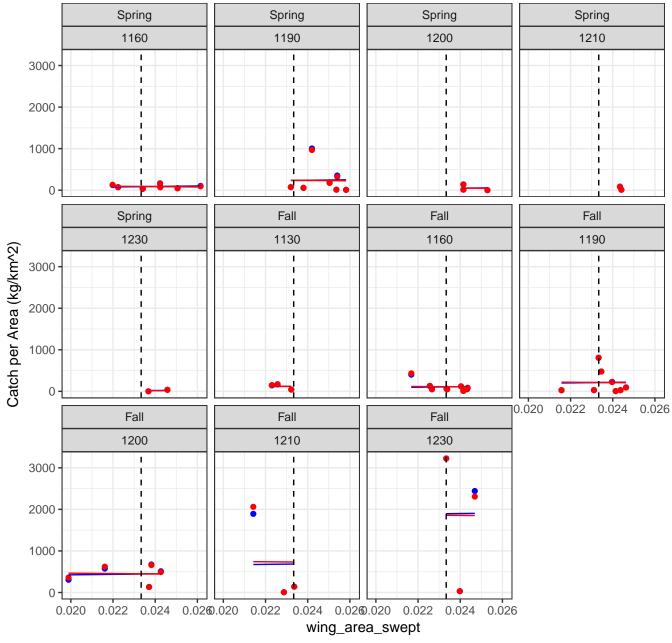
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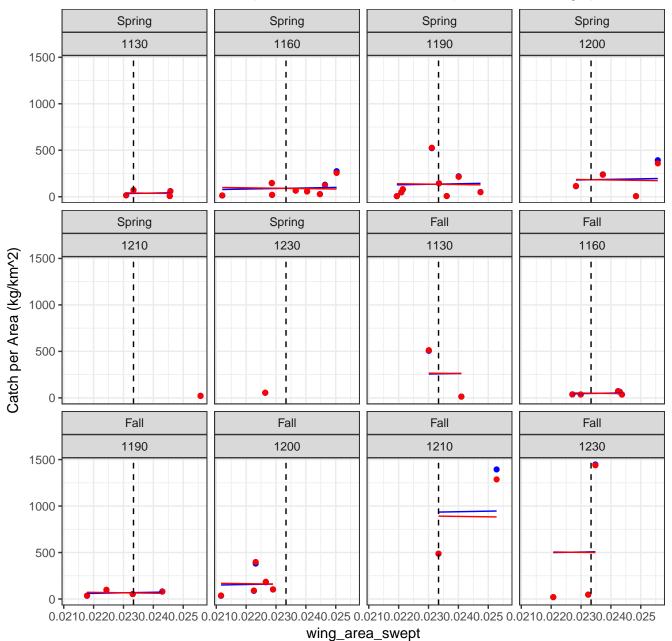
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Plaice 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring 1130 1170 1190 1160 1200 1210 1500 1000 500 Spring Spring Spring Spring Spring Spring 1220 1230 1240 1260 1270 1280 1500 1000 -500 3 Spring Spring Spring Spring Spring Spring 1290 1300 1360 1370 1380 1390 Catch per Area (kg/km^2) 1500 T L T 1000 500 0 Spring Fall Fall Fall Fall Fall 1400 1180 1220 1240 1270 1260 1500 -1000 500 معا 0 Fall Fall Fall Fall Fall Fall 1280 1290 1360 1370 1380 1390 1500 1000 500 -6 701.01(28,027).02(4,027,03001(8,027).02(4,027,03001(3,029).027).03001(3,027).03001(3,027).02(4,027,03001(3,027).02(4,027,03001(3,027).02(4,027).02(4,027).03(Fall 1400 1500 1000 500 0.0108.0201.0204.0207.030 wing_area_swept

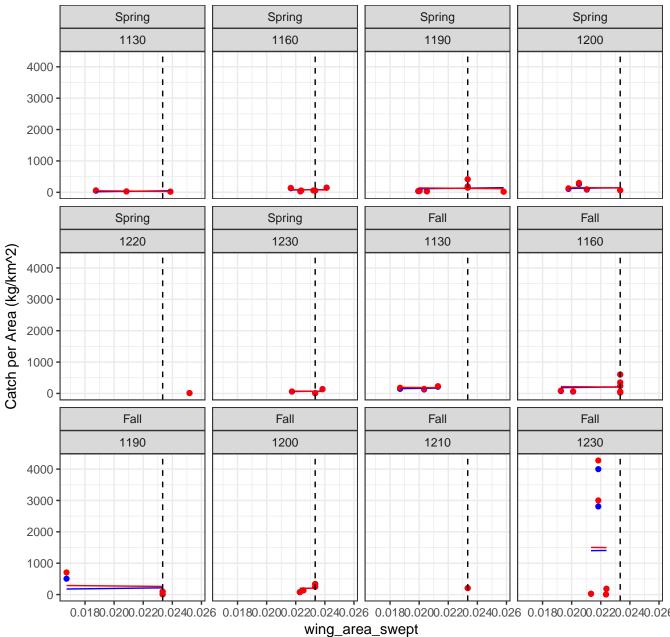
GBwinter 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread



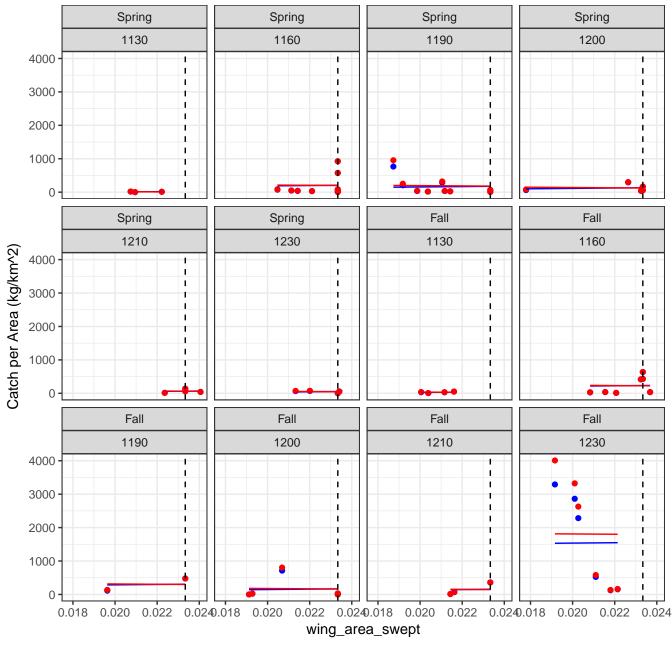
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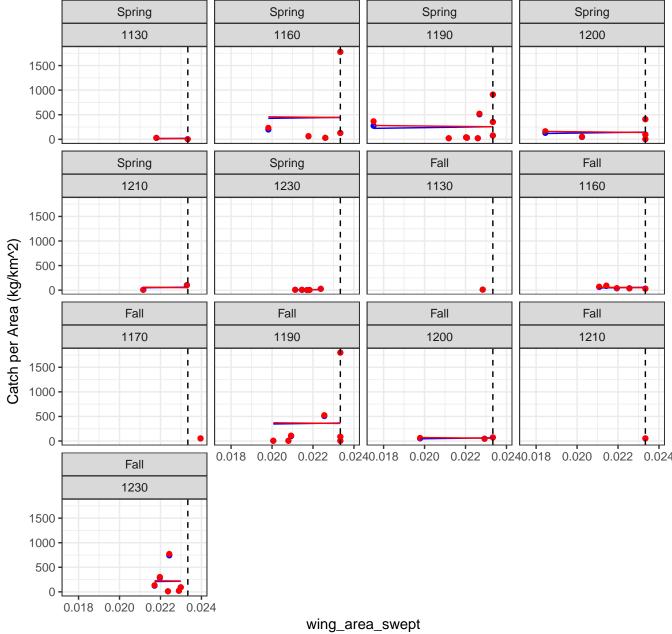
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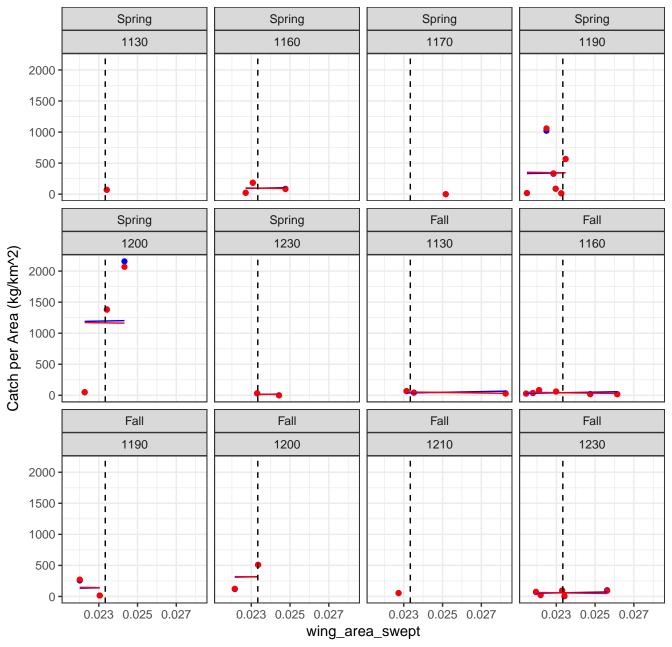
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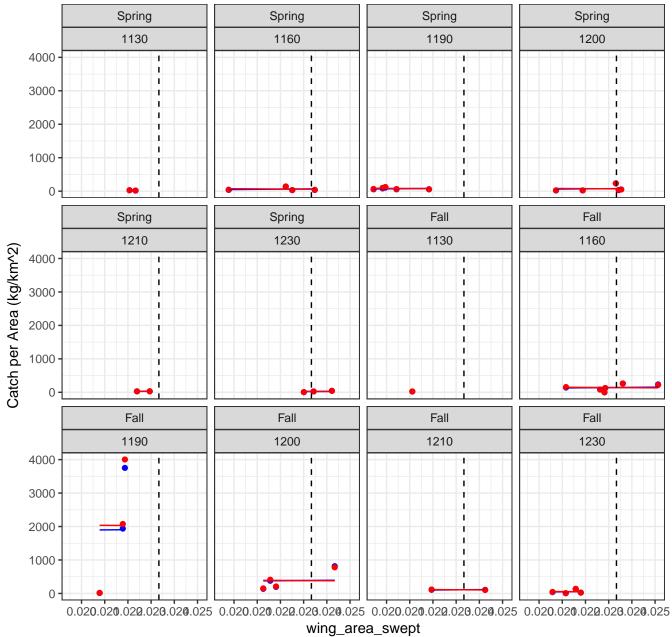
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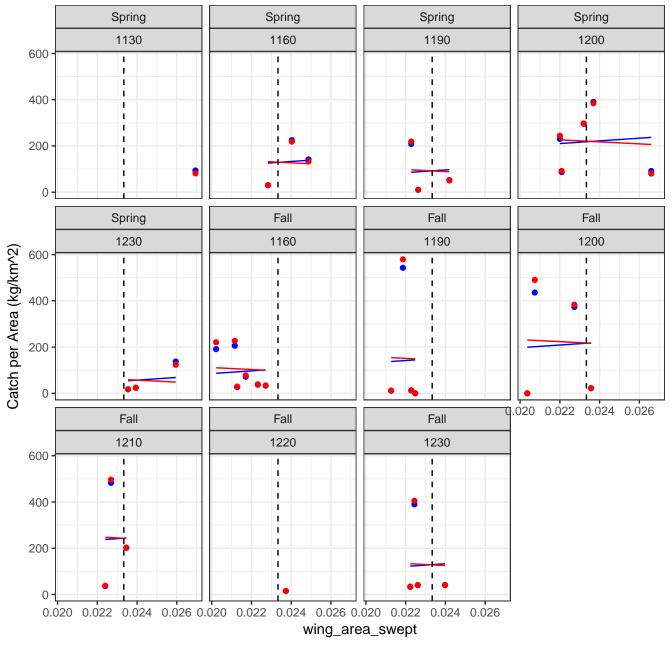
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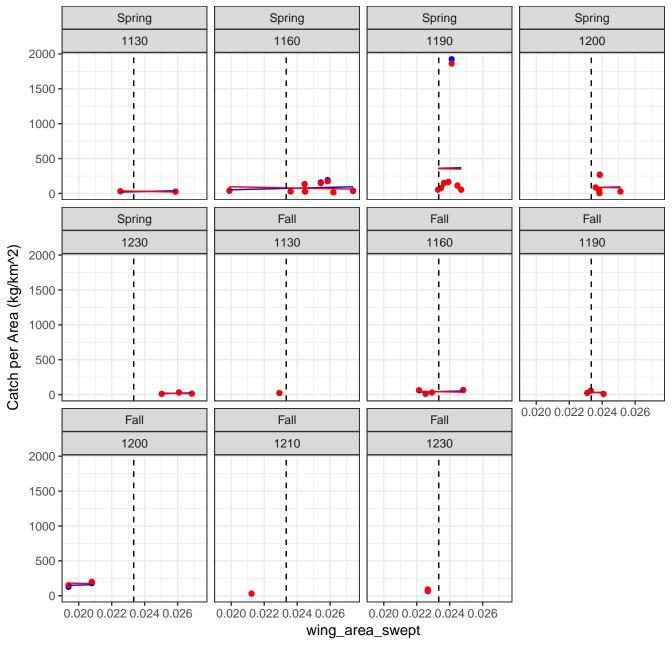
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GBwinter 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread

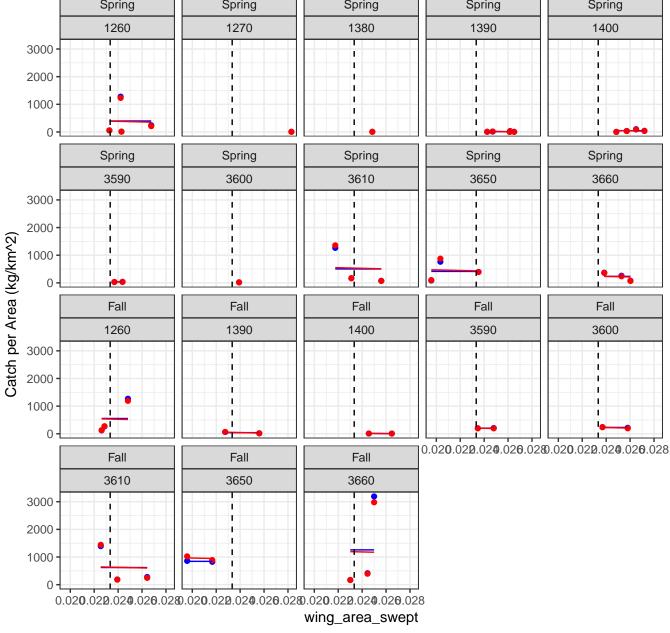


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GOMwinter 2009 Case 2 (Without Zeros, With Fills) Winner = Standard

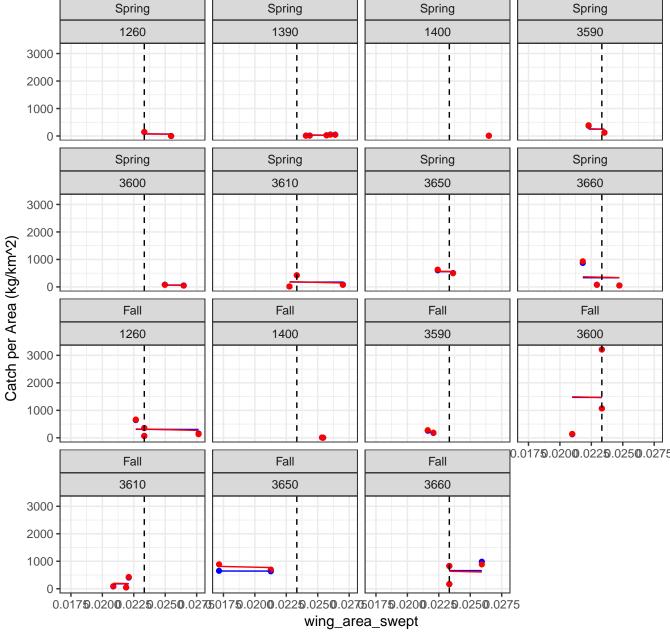
Spring Spring Spring Spring Spring



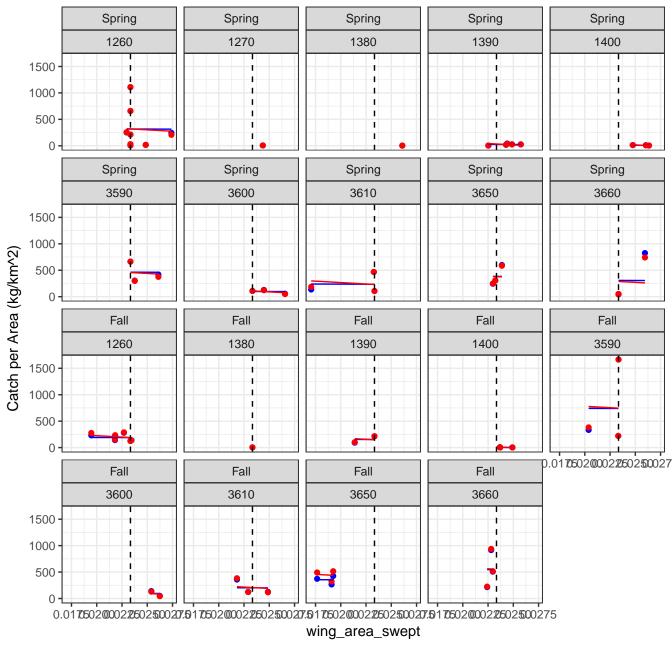
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wing_area_swept

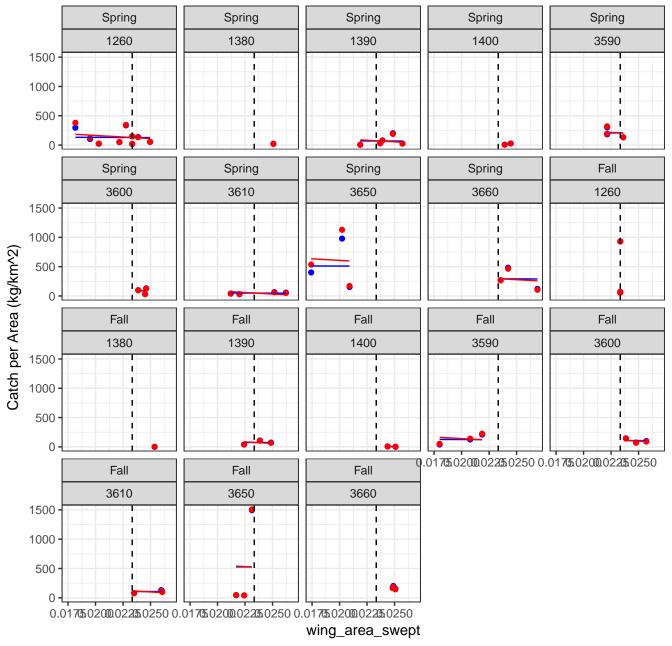
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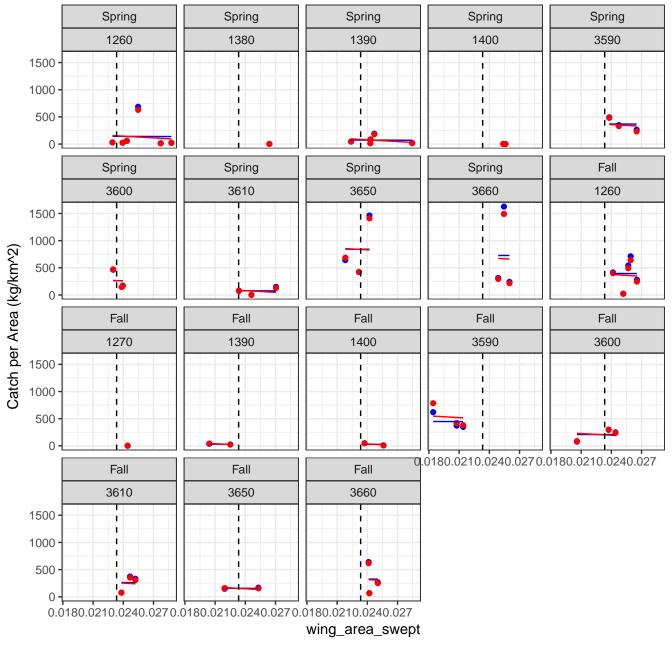
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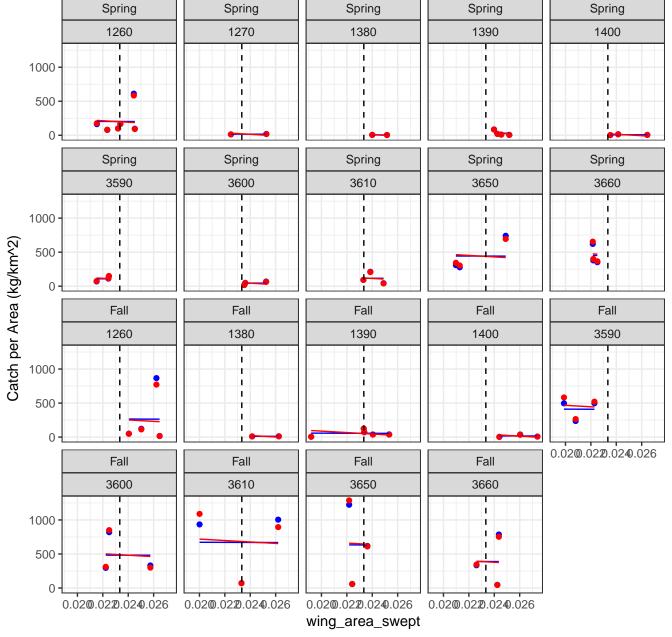
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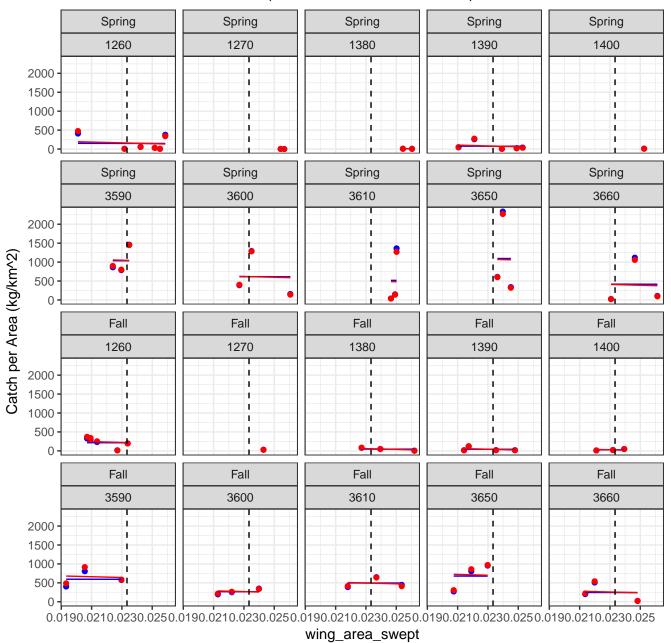
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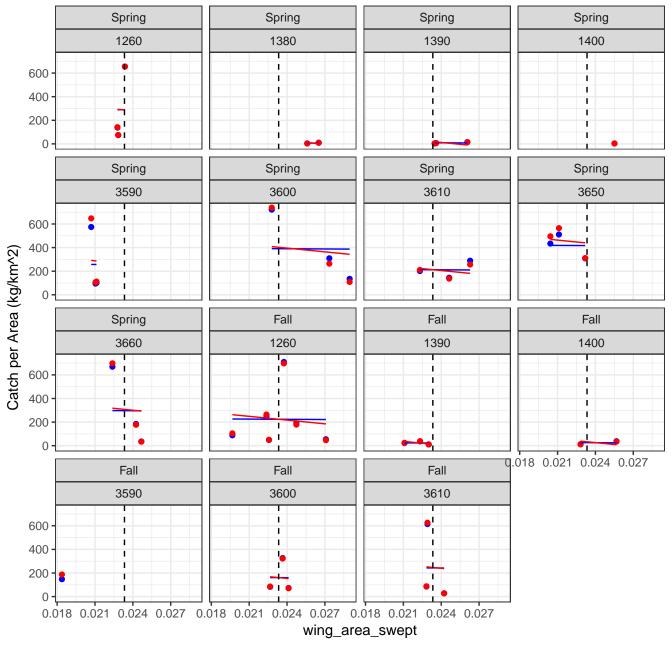
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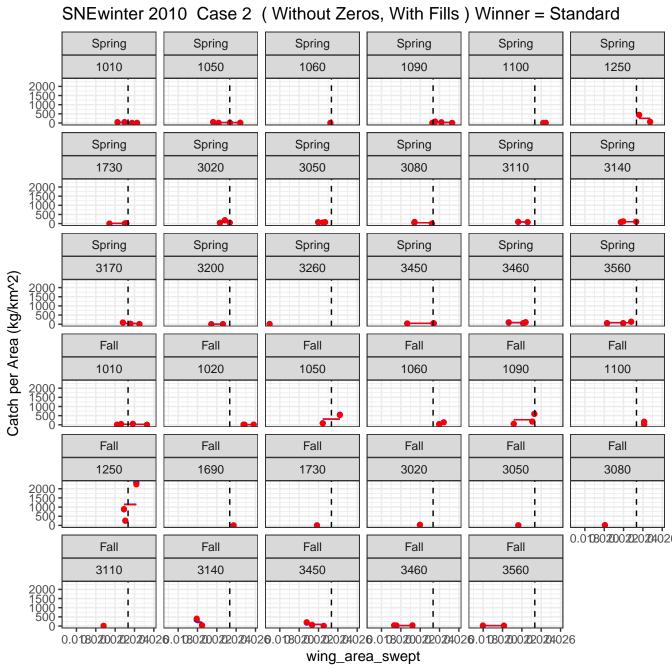
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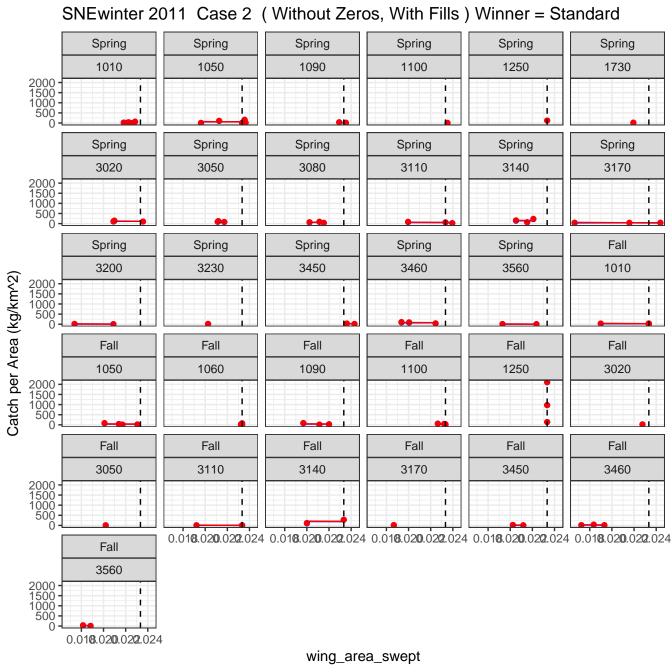


GOMwinter 2017 Case 2 (Without Zeros, With Fills) Winner = Standard



SNEwinter 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring 1010 1020 1050 1090 1100 1250 800 -600 -400 -200 -Spring Spring Spring Spring Spring Spring 1730 3020 3050 3080 3110 3140 800 600 400 200 Spring Spring Spring Spring Spring Spring 3170 3200 3230 3260 3450 3460 Catch per Area (kg/km^2) 800 600 400 200 Fall Fall Fall Fall Spring Fall 1010 3560 1050 1060 1090 1100 800 -600 -400 -200 -Fall Fall Fall Fall Fall Fall 1250 1730 3080 3110 3140 3170 800 -600 -400 -200 -0.020 0.022 0.024 0.020 0.022 0.024 0.020 0.022 0.024 Fall Fall Fall 3450 3460 3560 800 · 600 · 400 · 200 · 0.020 0.022 0.024 0.020 0.022 0.024 0.020 0.022 0.024 wing_area_swept

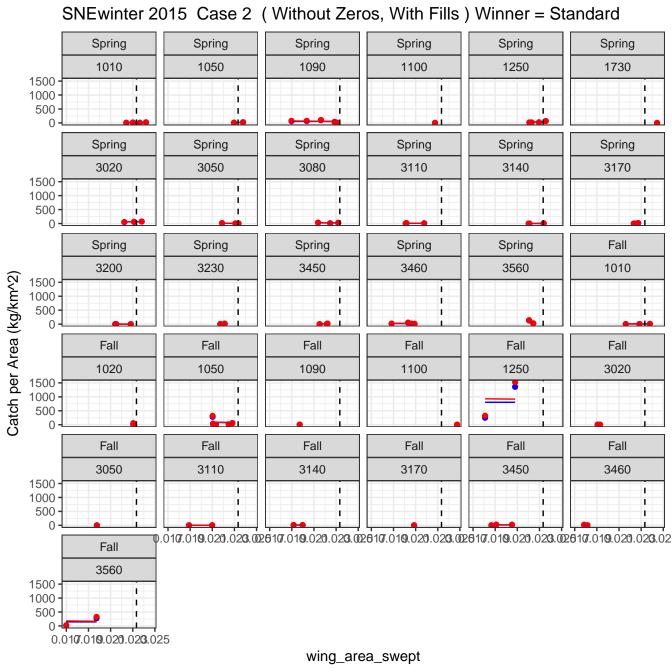




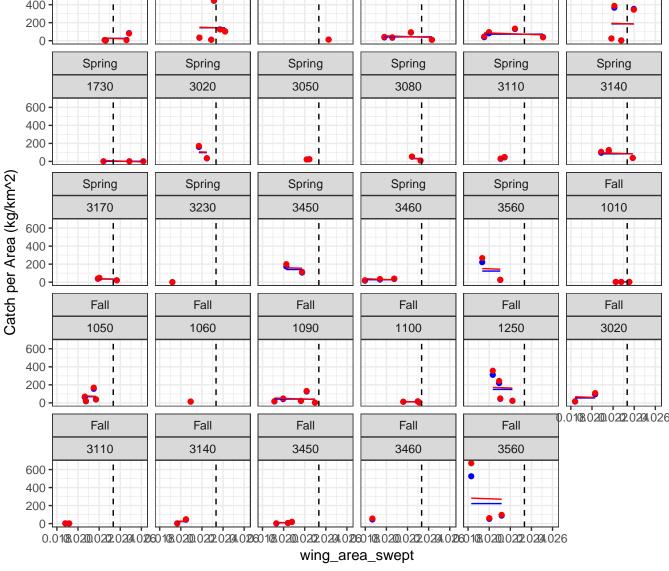
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SNEwinter 2013 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring Spring 1090 3020 1010 1050 1100 1250 600 400 200 Spring Spring Spring Spring Spring Spring 3050 3080 3110 3140 3170 3200 1 600 400 ı 200 I 0 Catch per Area (kg/km^2) Spring Spring Spring Spring Fall Fall 3230 3450 3460 3560 1010 1050 600 400 200 Fall Fall Fall Fall Fall Fall 1060 1090 1250 3020 3140 3450 600 Т 400 200 0 TO.01\$\$017.52\@02252501\$\$017.52\@02252501\$\$017.52\@02252501\$\$017.52\@02252 Fall Fall 3460 3560 600 400 200 0.015.017.520.022525015.017.520.0225250 wing_area_swept

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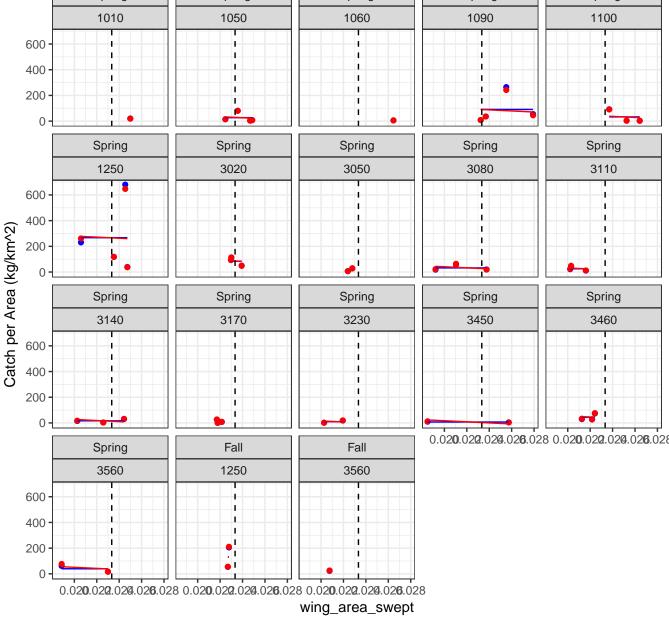


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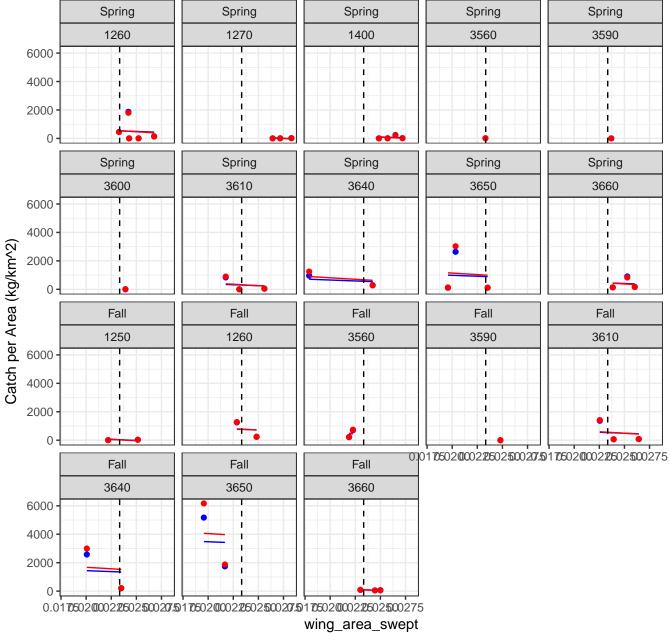


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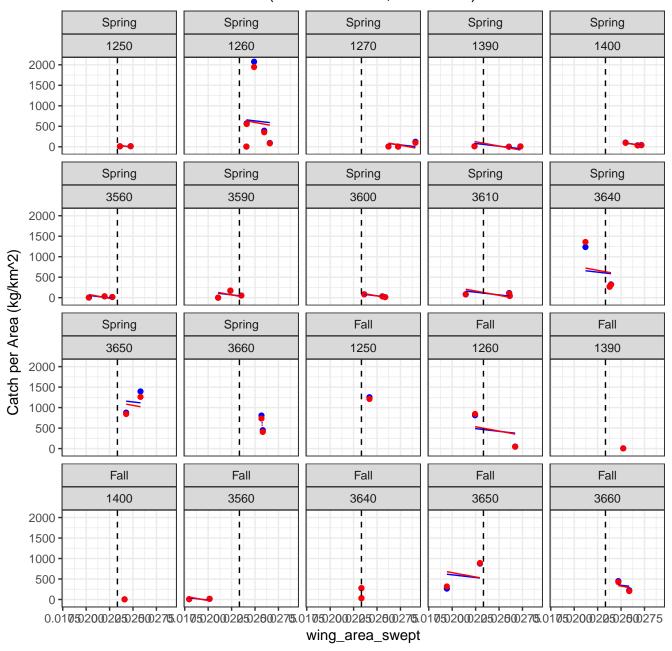
Spring Spring Spring Spring Spring Spring 1010 1050 1060 1090 1100



CCGOMYT 2009 Case 2 (Without Zeros, With Fills) Winner = Standard



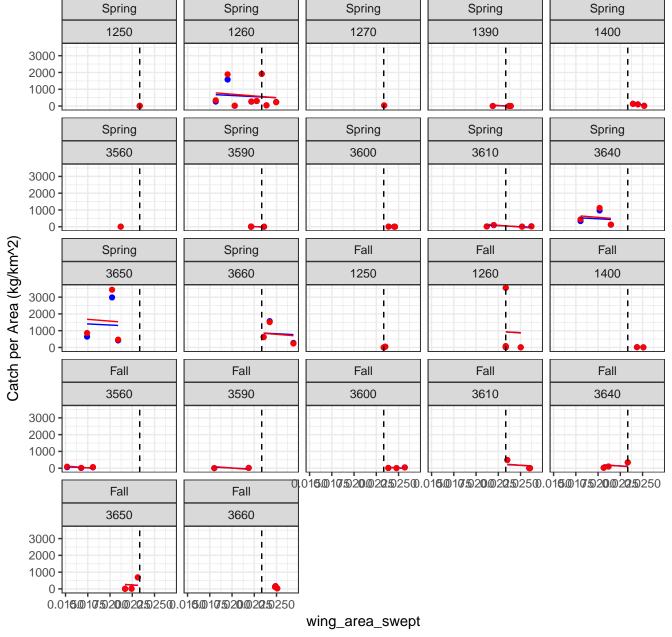
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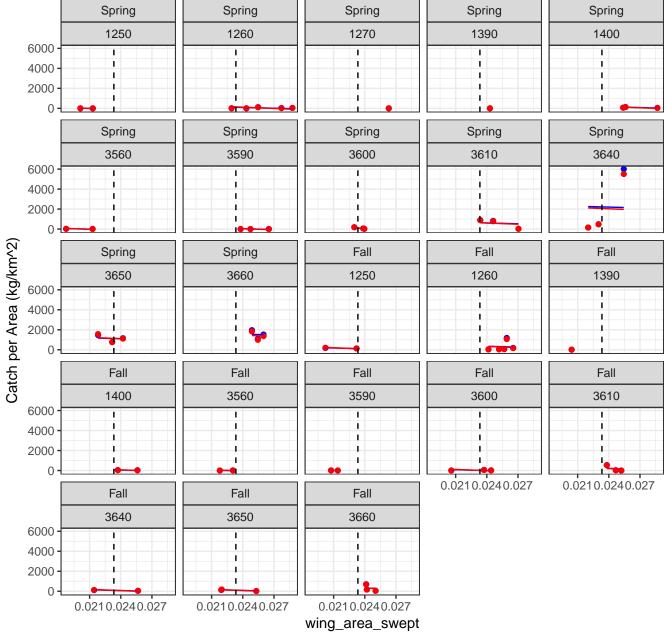
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CCGOMYT 2012 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring Spring 1270 1250 1260 1390 1400 5000 4000 3000 2000 -1000 Spring Spring Spring Spring Spring 3640 3560 3590 3600 3610 5000 4000 3000 2000 1000 Catch per Area (kg/km^2) Spring Spring Fall Fall Fall 3650 3660 1250 1260 3560 5000 4000 3000 -2000 -1000 -Fall Fall Fall Fall Fall 3590 3600 3610 3640 3650 5000 4000 3000 2000 1000 0 10.01705020000212502500207501705020002125025002075017050200021250250002075017050200021250250027 Fall 3660 5000 4000 3000 2000 1000 0.017050200002205025000275 wing_area_swept

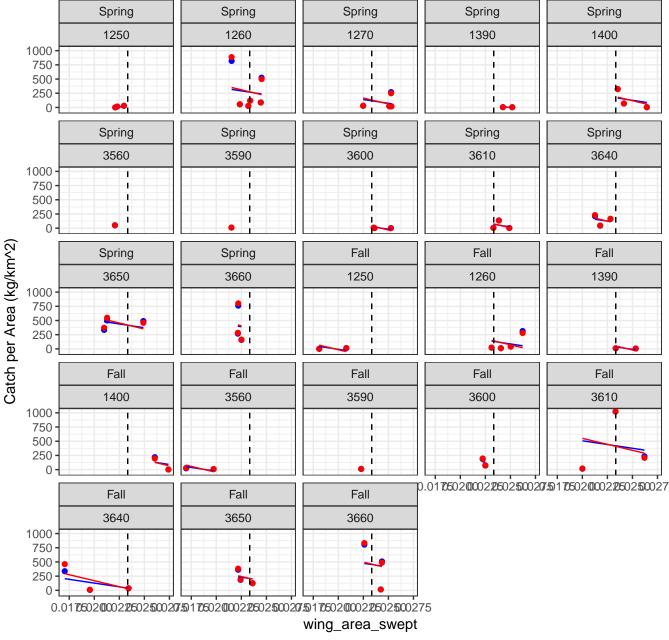
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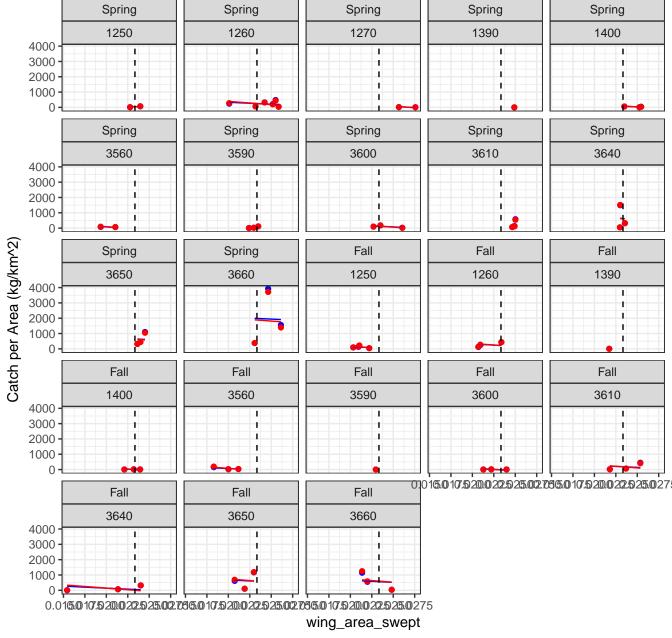
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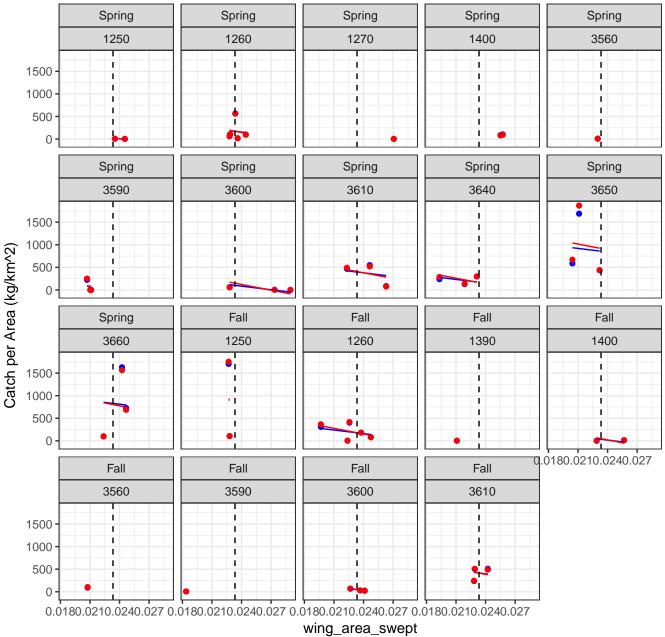
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CCGOMYT 2016 Case 2 (Without Zeros, With Fills) Winner = Standard



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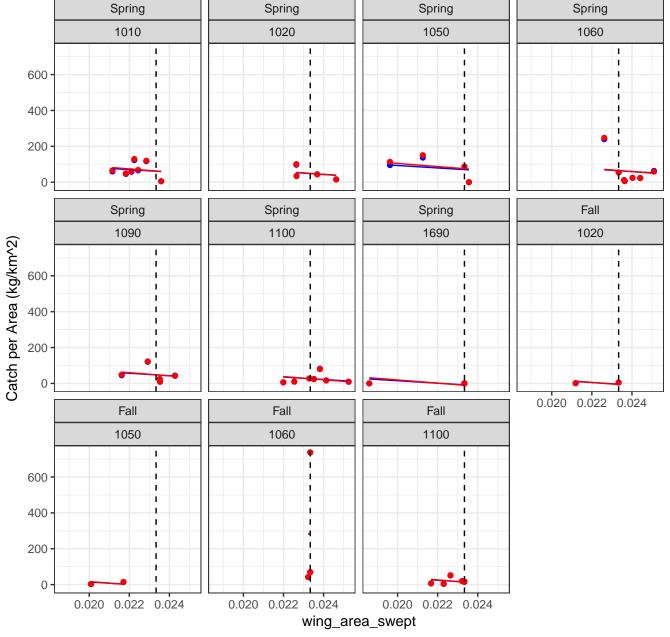


SNEMAYT 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Spring Spring Spring Spring 1050 1010 1020 1060 ī 400 200 0 Spring Spring Spring Fall 1100 1090 1730 1010 400 Catch per Area (kg/km^2) 200 Fall Fall Fall Fall 1020 1050 1060 1090 400 200 0]0.02**0**.02**2**.02**3**.024.025.0260.02**0**.02**2**.002**3**.024.025.0260.02**0**.02**2**.02**3**.024.025 Fall 1100 400 200 0.020.0220.0230.0240.0250.026 wing_area_swept

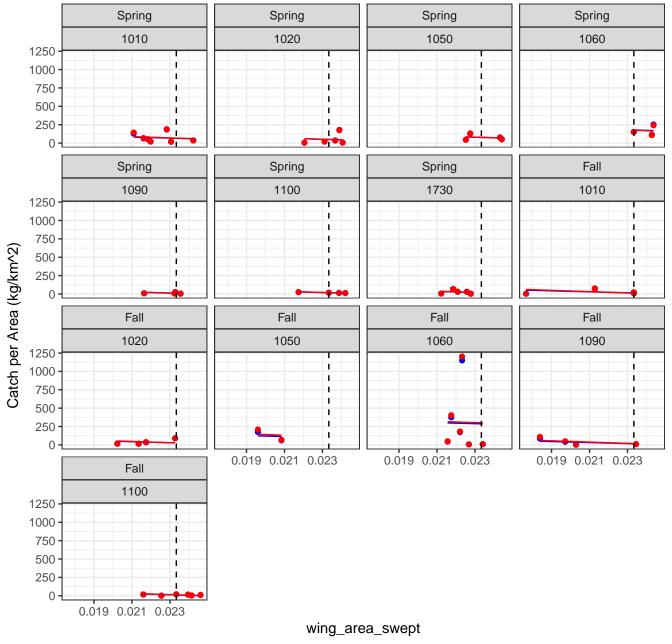
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SNEMAYT 2011 Case 2 (Without Zeros, With Fills) Winner = Standard

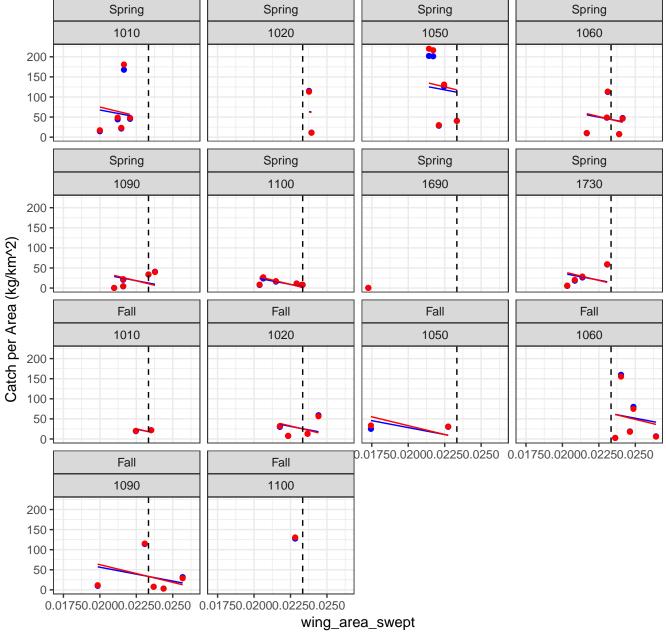
Spring Spring Spring Spring



SNEMAYT 2012 Case 2 (Without Zeros, With Fills) Winner = Standard

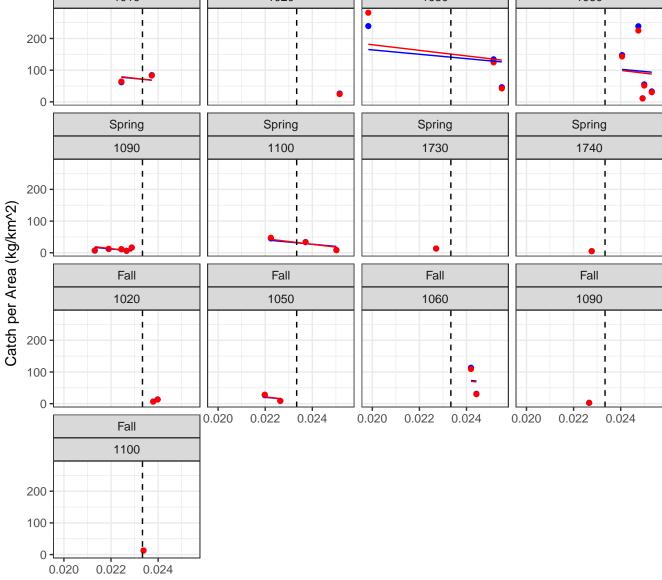


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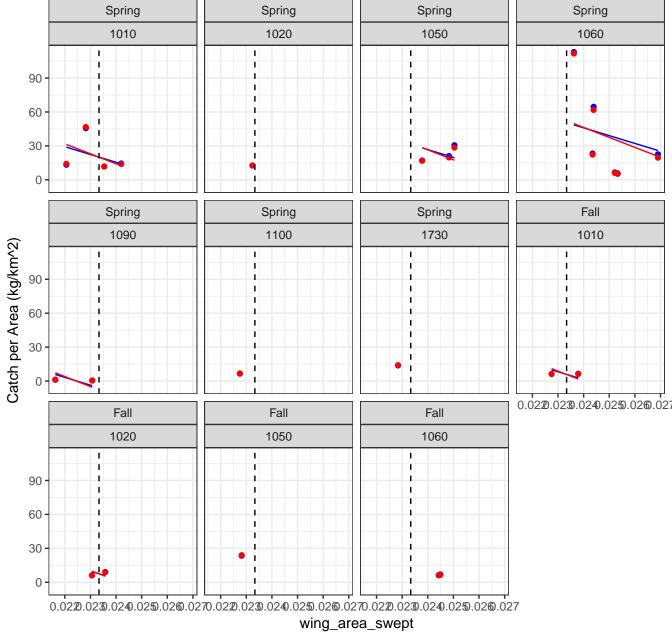
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Spring Spring Spring Spring Spring 1010 1020 1050 1060

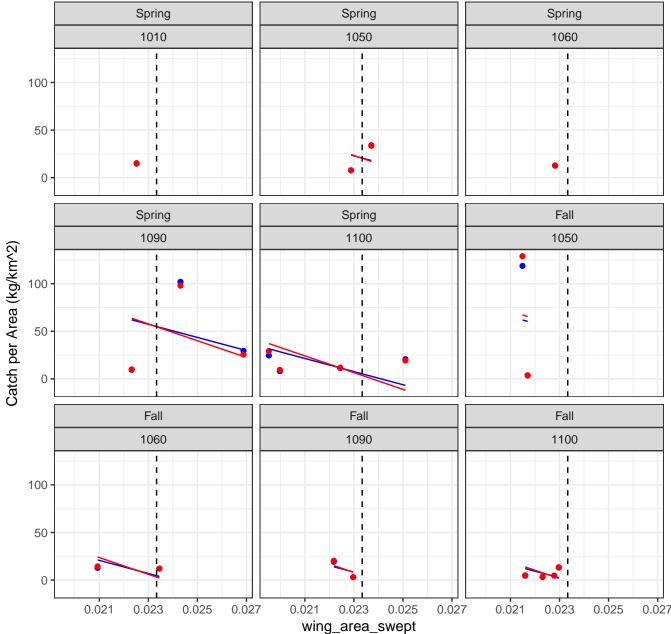


wing_area_swept

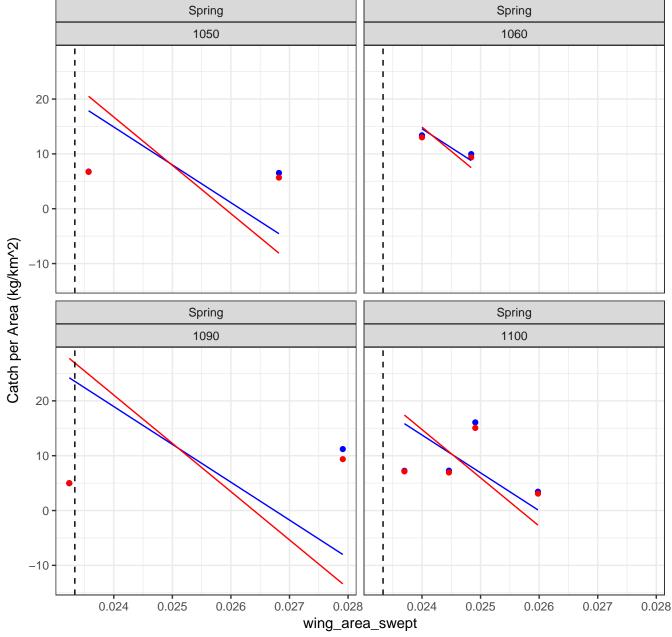
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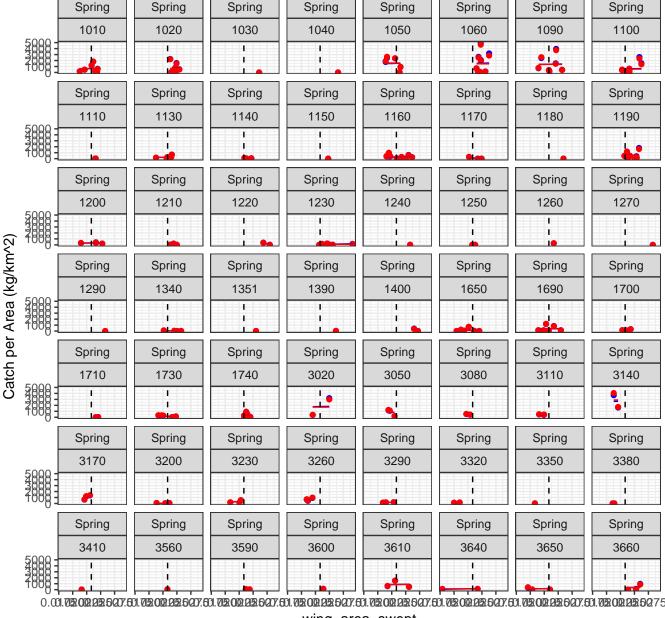
SNEMAYT 2016 Case 2 (Without Zeros, With Fills) Winner = Standard



SNEMAYT 2017 Case 2 (Without Zeros, With Fills) Winner = Standard

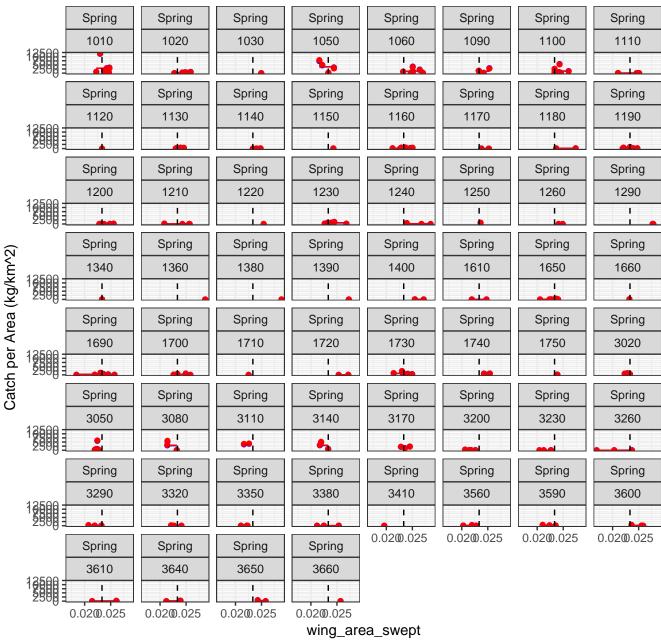


Littleskate 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread

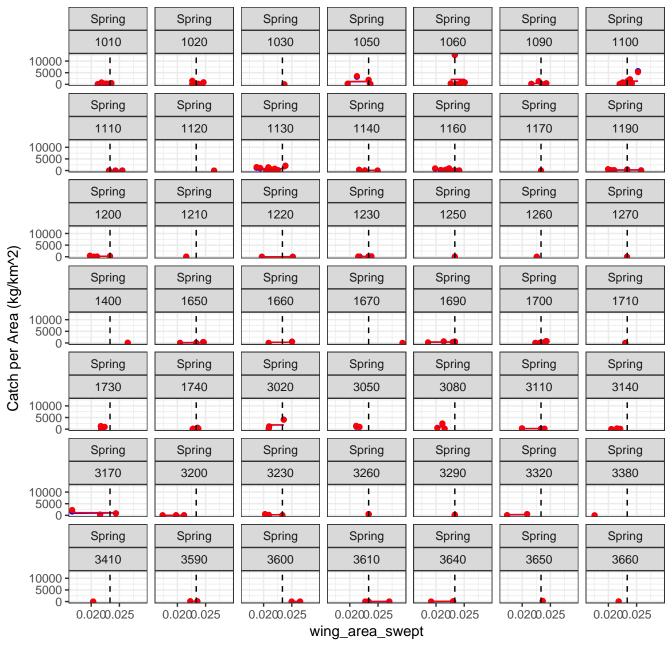


wing_area_swept

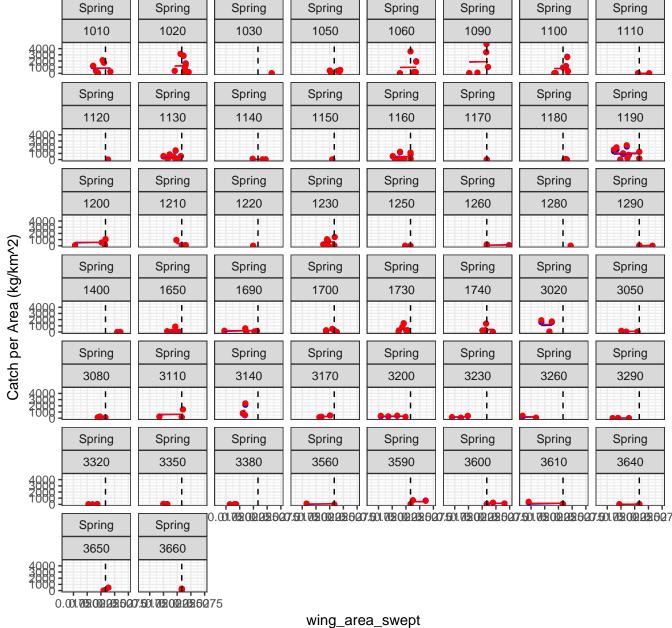
Littleskate 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Littleskate 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread



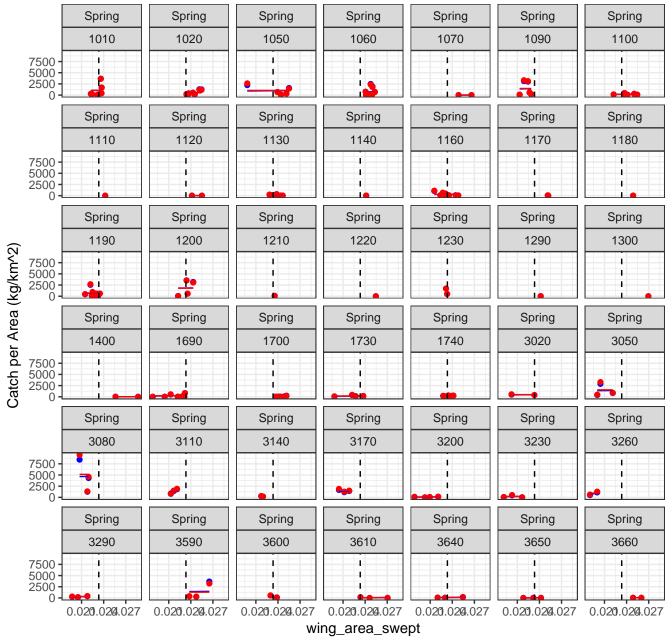
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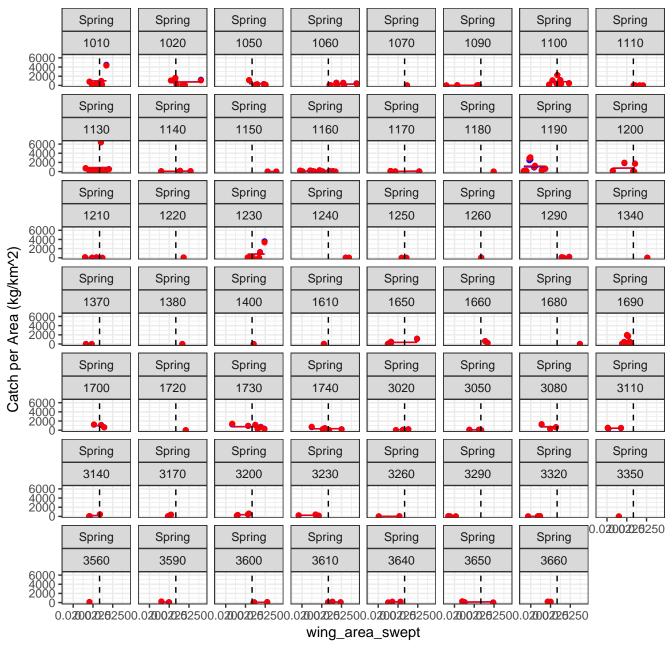
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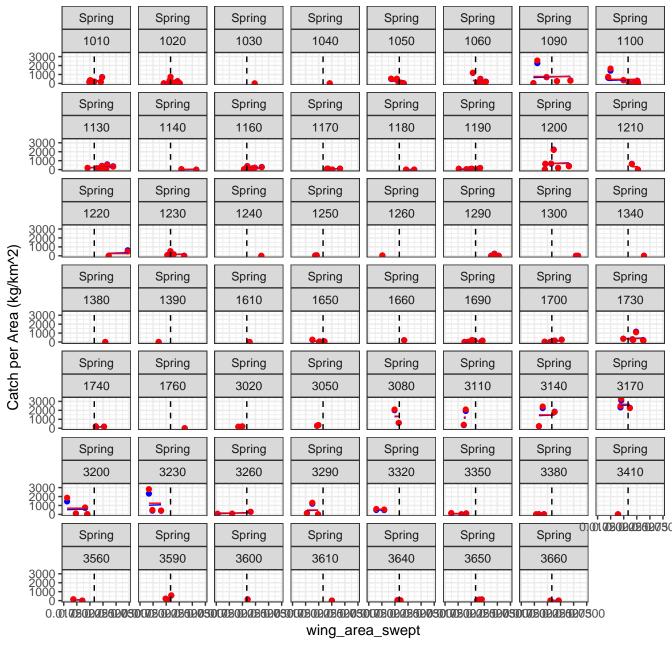
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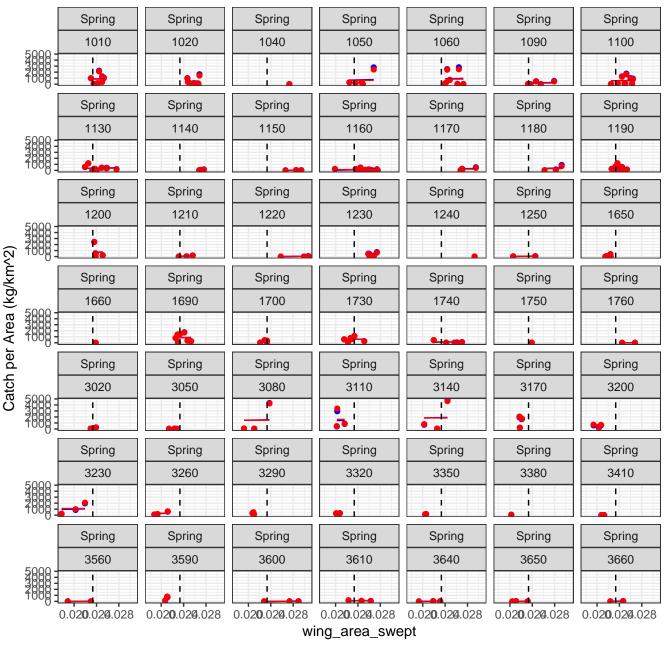
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Littleskate 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread

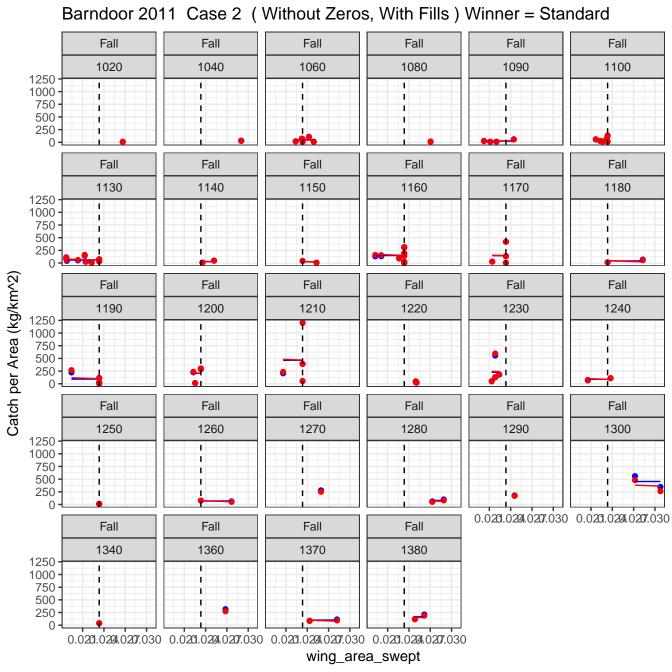


Littleskate 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread

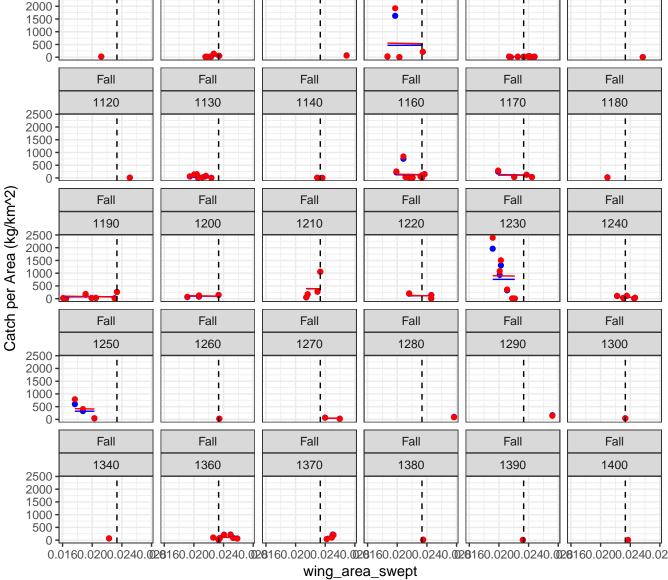


Barndoor 2009 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall 1060 1090 1100 1110 1130 600 400 200 0 Fall Fall Fall Fall Fall 1140 1160 1170 1190 1200 600 400 Catch per Area (kg/km^2) 200 Fall Fall Fall Fall Fall 1210 1220 1230 1240 1270 600 400 200 0 Fall Fall Fall Fall Fall 1300 1360 1280 1290 1400 600 400 200 0 0.02250.02500.0275 0.02250.02500.0275 0.02250.02500.0275 0.02250.02500.0275 0.02250.02500.0275 wing_area_swept

Barndoor 2010 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Catch per Area (kg/km^2) Fall wing_area_swept



Barndoor 2012 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall Fall 1050 1060 1080 1090 1100 1110 2500 2000 1500 1000 500 Fall Fall Fall Fall Fall Fall 1120 1130 1160 1170 1180 1140 2500 2000 1500 1000 500 0 Fall Fall Fall Fall Fall Fall 1190 1200 1210 1220 1230 1240 2500 2000 1500 1000 500 Fall Fall Fall Fall Fall Fall



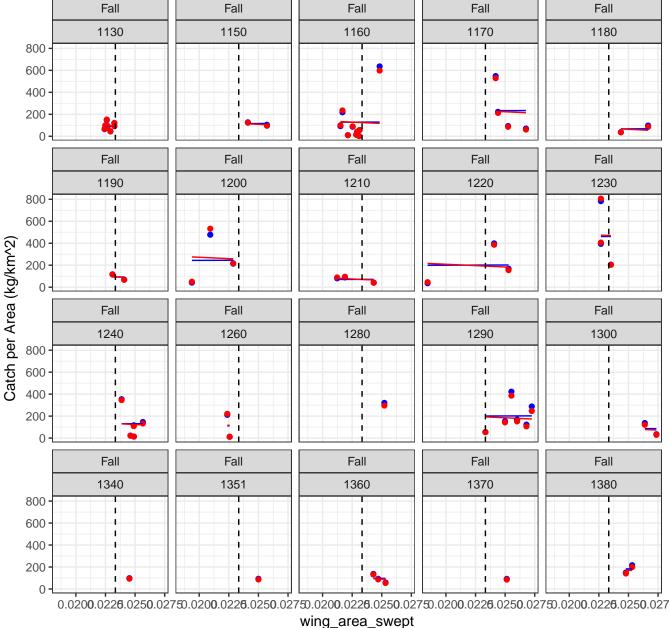
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Barndoor 2014 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall Fall 1040 1050 1070 1060 1090 1100 4000 2000 Fall Fall Fall Fall Fall Fall 1130 1140 1150 1160 1180 1170 4000 2000 0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall 1190 1200 1210 1220 1230 1240 4000 2000 -Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1340 4000 2000 0 0.0201.0204.0207.030 0.0201.0204.0207.030 0.0201.0204.0207.030 Fall Fall Fall 1360 1370 1380 4000 2000 -0.0201.0204.0207.030 0.0201.0204.0207.030 0.0201.0204.0207.030 wing_area_swept

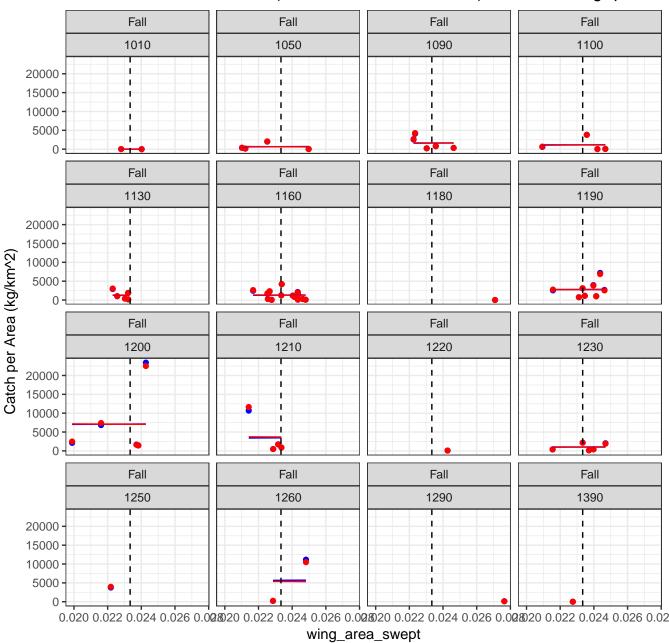
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Barndoor 2016 Case 2 (Without Zeros, With Fills) Winner = Standard Fall Fall Fall Fall Fall Fall 1050 1060 1070 1090 1100 1110 600 ī ı 400 200 Fall Fall Fall Fall Fall Fall 1130 1140 1160 1170 1180 1190 600 400 200 0 -Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall 1200 1210 1220 1230 1240 1250 600 400 200 0 Fall Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 1340 600 400 200 0 TD.020.02Q.02Q.026.026 0.020.02Q.02Q.026.026 0.020.02Q.02Q.02G.026 Fall Fall Fall 1360 1370 1380 600 400 200 $0.02 \\ 0.02 \\$ wing_area_swept

Barndoor 2017 Case 2 (Without Zeros, With Fills) Winner = Standard

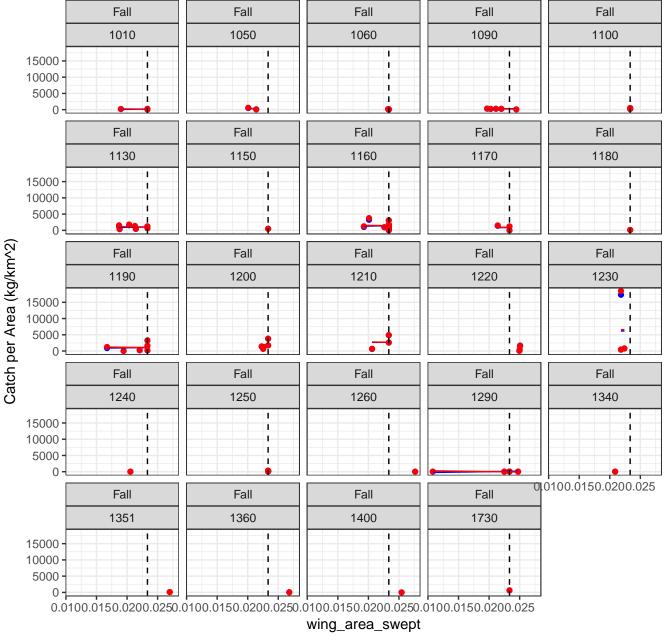


Winterskate 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Winterskate 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall Fall 1010 1020 1050 1060 1090 6000 4000 L 2000 Fall Fall Fall Fall Fall 1100 1130 1160 1170 1140 6000 4000 -2000 -Catch per Area (kg/km^2) Fall Fall Fall Fall Fall 1190 1180 1200 1210 1220 6000 -4000 -2000 -Fall Fall Fall Fall Fall 1230 1240 1250 1260 1290 6000 4000 -2000 -0 $0.02 \\ 0.02 \\ 20.02 \\ 4.02 \\ 6.02 \\ 8.02 \\ 0.02 \\ 0.02 \\ 0.02 \\ 4.02 \\ 6.02 \\ 8.02 \\ 0.02 \\$ Fall Fall 1380 1400 6000 4000 2000 0.020.022.024.026.028.020.022.024.026.028 wing_area_swept

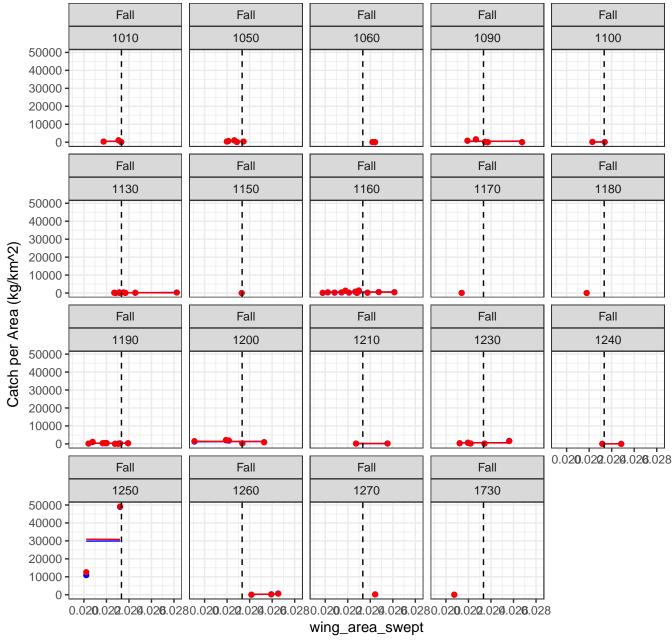
Winterskate 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread



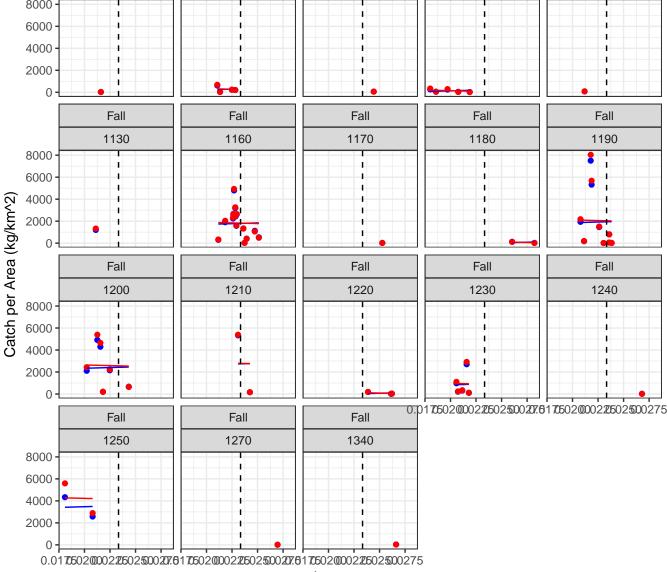
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Winterskate 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall Fall 1010 1050 1060 1090 1100 3000 2000 1000 -0 Fall Fall Fall Fall Fall 1160 1170 1190 1130 1200 3000 2000 Catch per Area (kg/km^2) 1000 Fall Fall Fall Fall Fall 1210 1220 1230 1240 1250 3000 -2000 1000 - $0.01 \\ 3.02 \\ 0.02 \\ 2.02 \\ 4.02 \\ 6.01 \\ 3.02 \\ 0.02 \\ 2.02 \\ 4.02 \\ 6.01 \\ 3.02 \\ 0.02 \\ 2.02 \\ 4.02 \\ 6.01 \\ 3.02 \\ 0.02 \\ 2.02 \\ 4.02 \\ 6.01 \\ 3.02 \\ 0.02 \\ 2.02 \\ 4.02 \\ 6.01 \\ 3.02 \\ 0.02 \\ 4.02 \\ 6.01 \\ 3.02 \\ 0.02 \\ 4.02 \\ 6.01 \\ 3.02 \\ 0.02 \\ 4.02 \\ 6.01 \\ 6.01 \\ 6.02 \\ 6.01 \\ 6.02 \\ 6.01 \\ 6.02 \\$ Fall Fall 1290 1260 3000 2000 1000 0.018.020.022.024.026.018.020.022.024.026wing_area_swept

Winterskate 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread

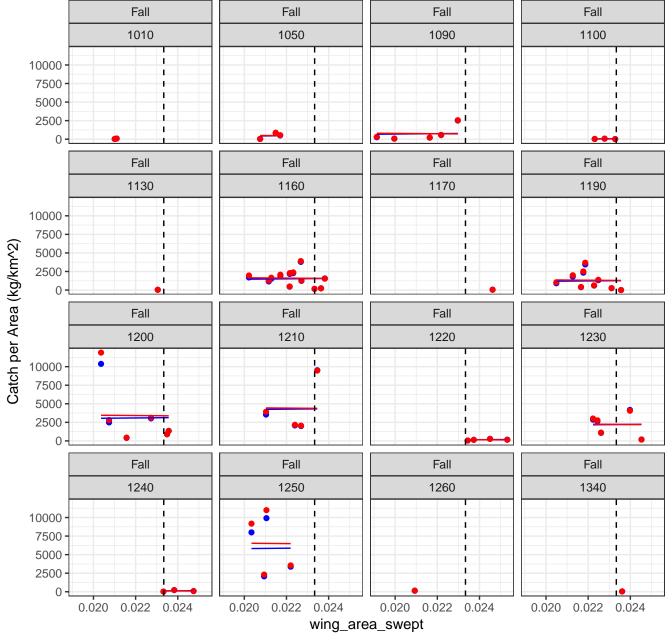


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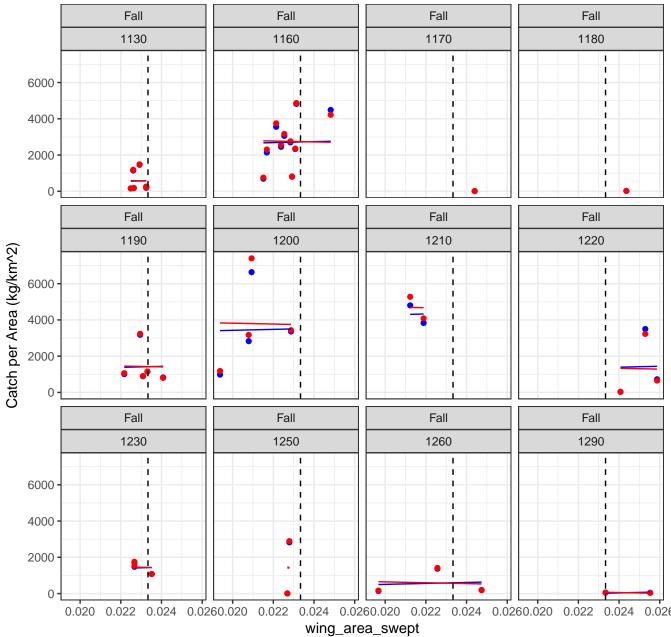


wing_area_swept

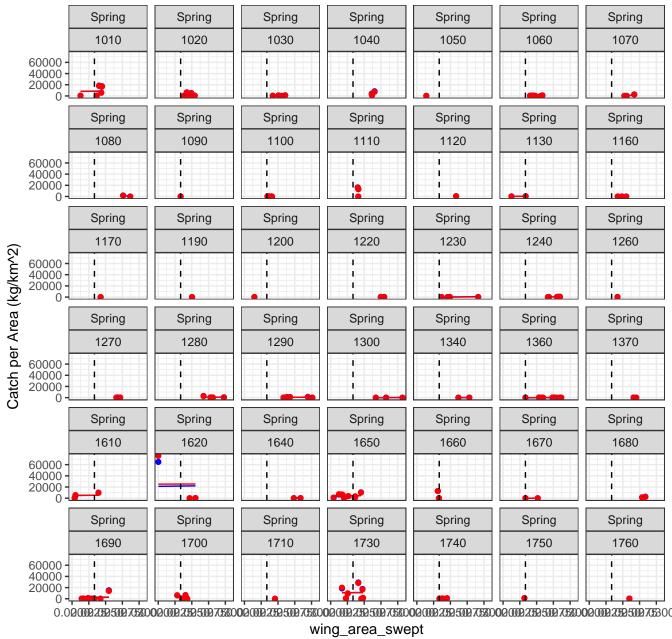
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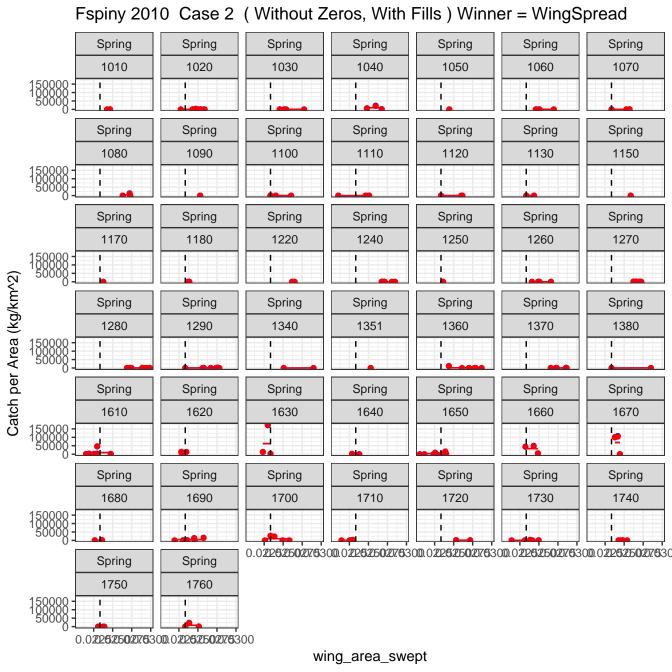


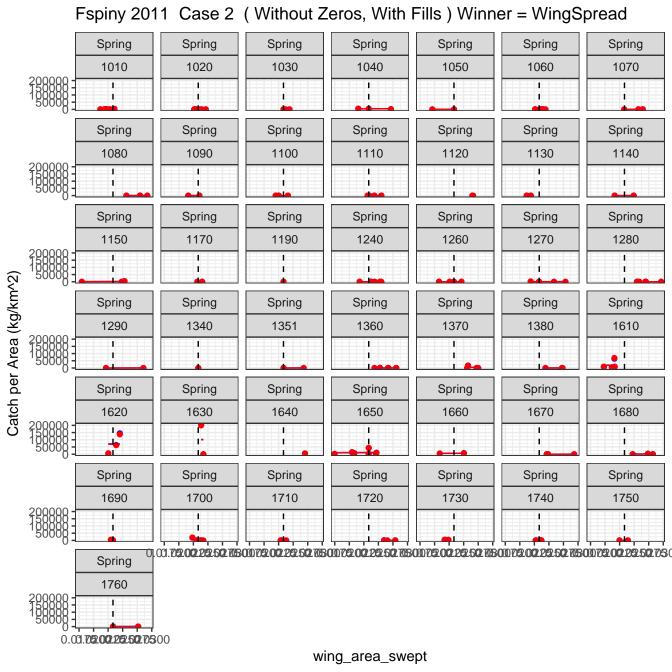
Winterskate 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Fspiny 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread

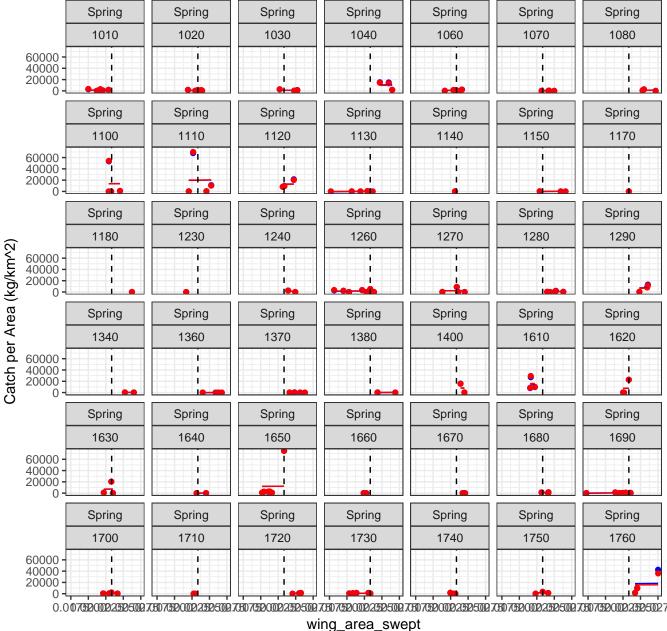




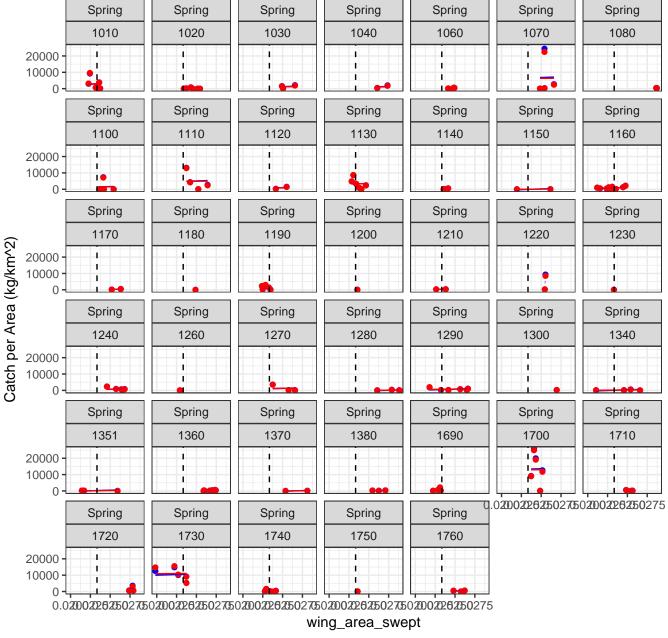


Fspiny 2012 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring 1010 1020 1030 1040 1050 1060 1070 Spring Spring Spring Spring Spring Spring Spring 1130 1080 1090 1100 1110 1120 1140 Spring Spring Spring Spring Spring Spring Spring 1150 1170 1180 1230 1240 1250 1260 Catch per Area (kg/km^2) Spring Spring Spring Spring Spring Spring Spring 1270 1280 1290 1300 1351 1360 1370 Spring Spring Spring Spring Spring Spring Spring 1380 1400 1610 1640 1650 1660 1670 Spring Spring Spring Spring Spring Spring Spring 1680 1690 1700 1710 1720 1730 1740 0.020.024.028 0.020.024.028 0.020.024.028 0.020.024.028 0.020.024.028 0.020.024.028 Spring Spring 1750 1760 0.020.024.028 0.020.024.028 wing_area_swept

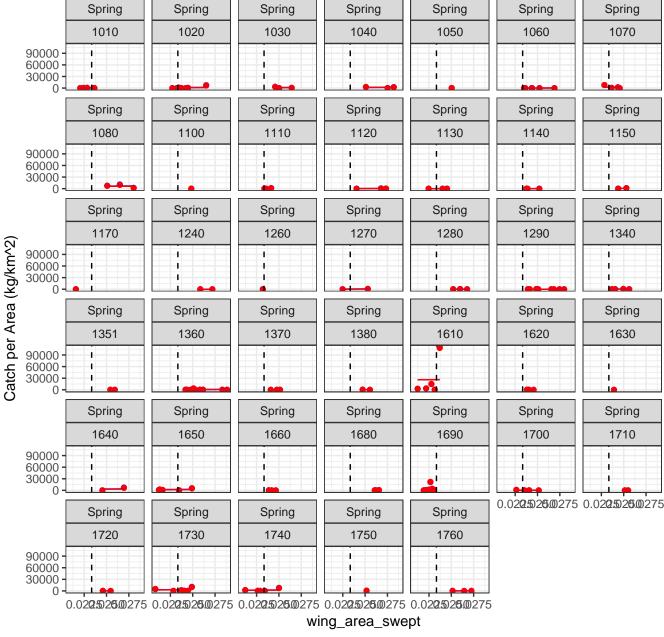
Fspiny 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread



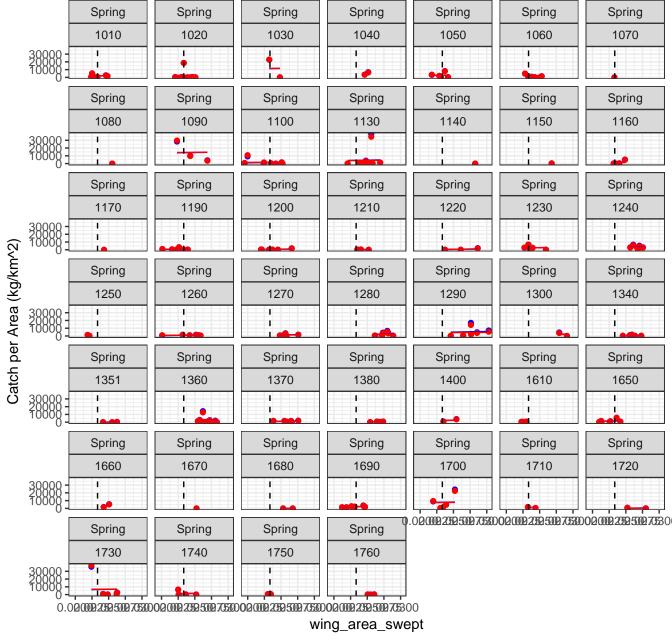
Fspiny 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread



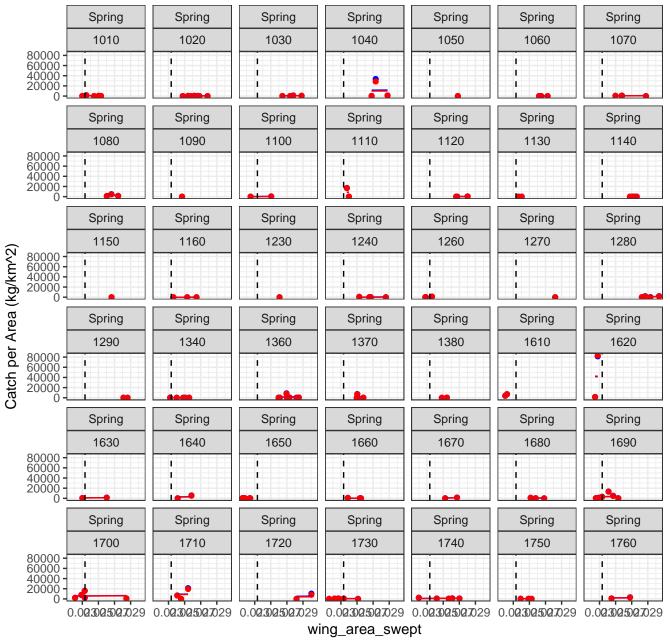
Fspiny 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread

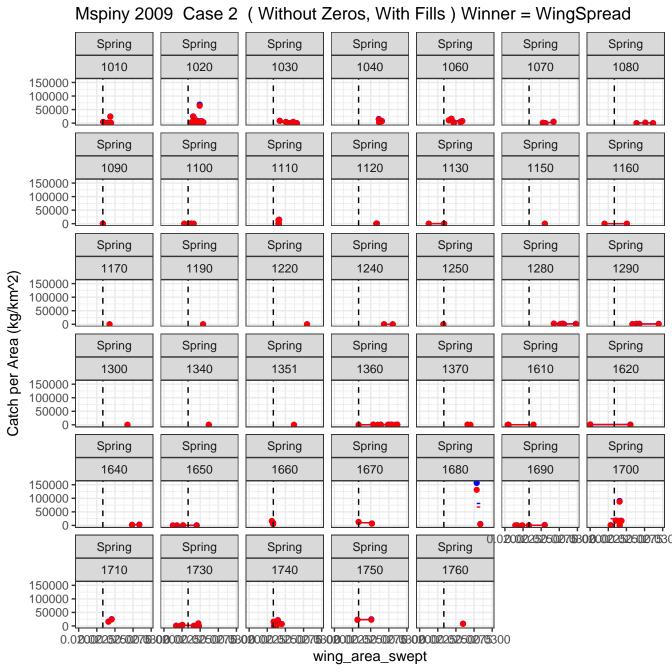


Fspiny 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread



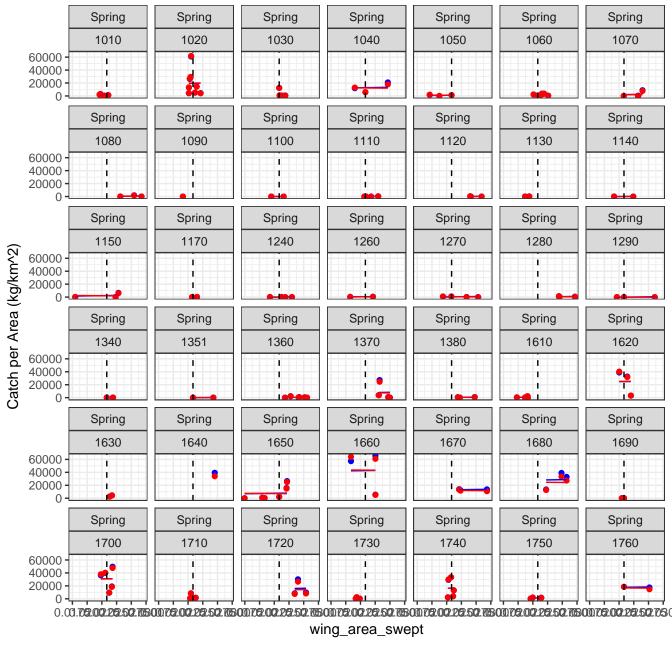
Fspiny 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread





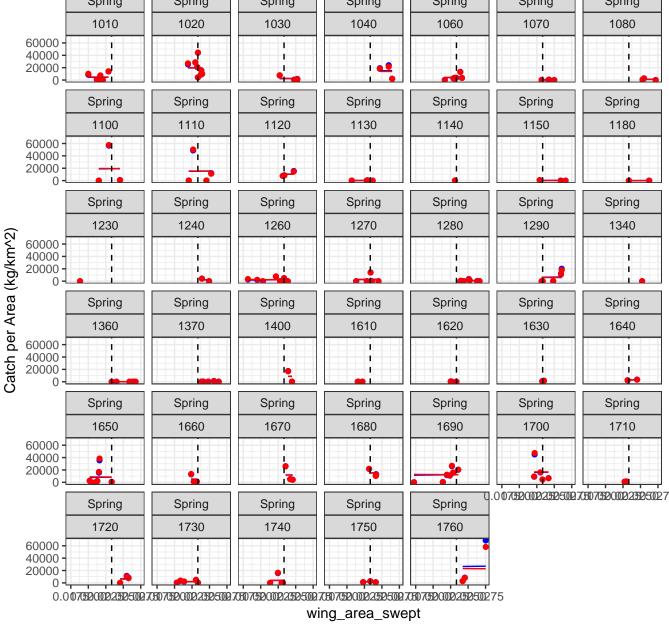
Mspiny 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring 1010 1020 1030 1040 1060 1070 1080 150000 100000 50000 Spring Spring Spring Spring Spring Spring Spring 1090 1100 1110 1120 1130 1150 1180 150000 100000 50000 Spring Spring Spring Spring Spring Spring Spring 1200 1220 1280 1290 1240 1260 1270 Catch per Area (kg/km^2) 150000 100000 50000 Spring Spring Spring Spring Spring Spring Spring 1300 1340 1360 1370 1380 1610 1620 150000 100000 50000 Spring Spring Spring Spring Spring Spring Spring 1630 1640 1650 1660 1670 1680 1690 150000 100000 50000 Spring Spring Spring Spring Spring Spring Spring 1700 1710 1720 1730 1740 1750 1760 150000 100000 50000

Mspiny 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread

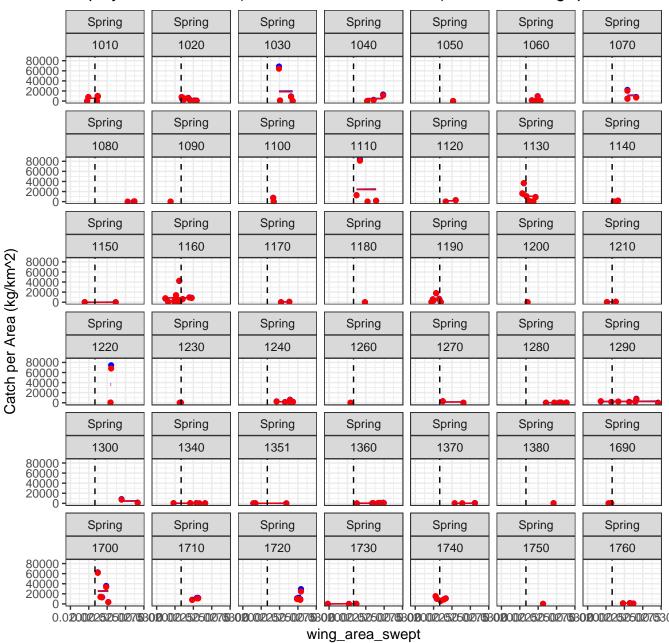


Mspiny 2012 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring 1050 1060 1010 1020 1030 1040 1070 3e+05 -2e+05 -1e+05 -0e+00 -Spring Spring Spring Spring Spring Spring Spring 1080 1100 1110 1120 1130 1140 1150 3e+05 -2e+05 -1e+05 -0e+00 -Spring Spring Spring Spring Spring Spring Spring 1160 1170 1180 1190 1210 1230 1240 3e+05 -2e+05 -1e+05 -0e+00 -Catch per Area (kg/km^2) Spring Spring Spring Spring Spring Spring Spring 1260 1270 1280 1290 1340 1351 1360 3e+05 -2e+05 -1e+05 -0e+00 -Spring Spring Spring Spring Spring Spring Spring 1370 1630 1650 1670 1680 1380 1640 3e+05 -2e+05 -1e+05 -0e+00 -Spring Spring Spring Spring Spring Spring Spring 1690 1700 1710 1720 1730 1740 1750 $0.02 \\ 0.02 \\$ Spring 1760 0.0200.0240.028 wing area swept

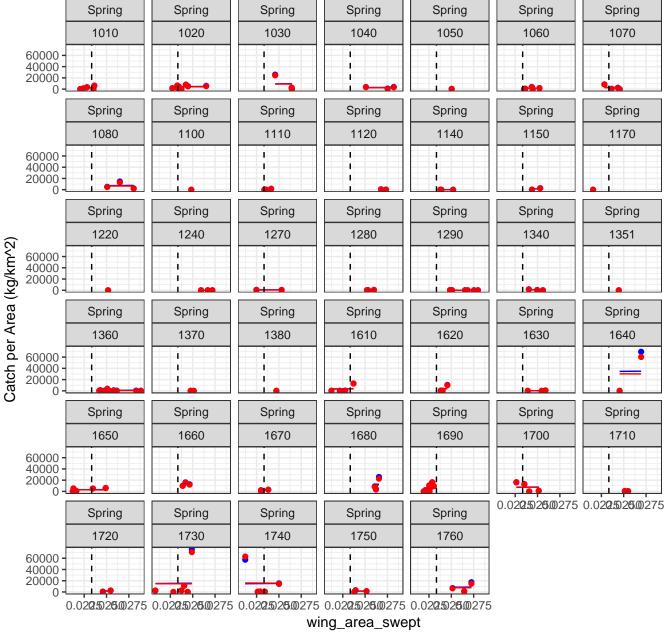
Spring Spring<



Mspiny 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread

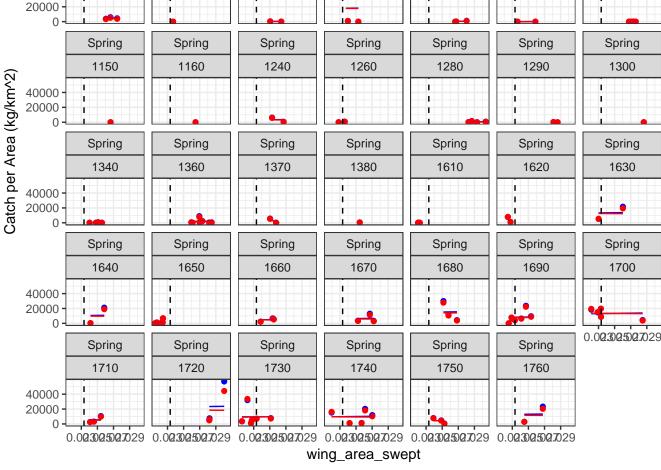


Mspiny 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring

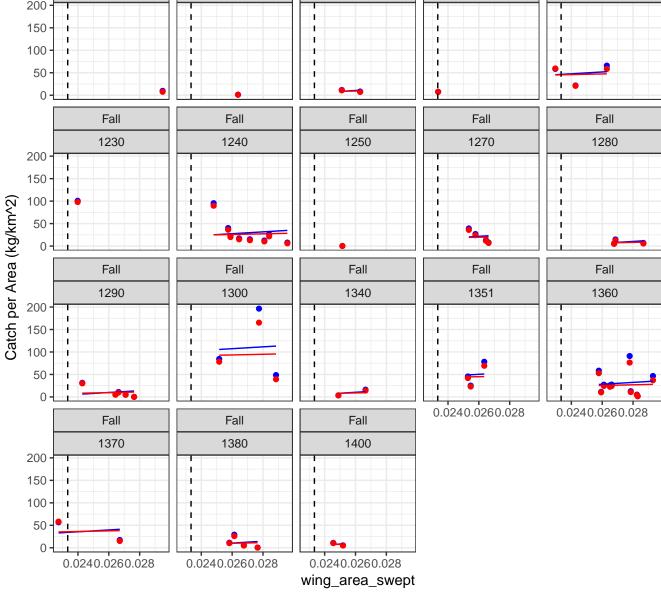


Mspiny 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring 1020 1060 1010 1030 1040 1050 1070 120000 90000 60000 30000 Spring Spring Spring Spring Spring Spring Spring 1090 1080 1100 1110 1120 1130 1140 120000 90000 60000 30000 Spring Spring Spring Spring Spring Spring Spring 1150 1160 1190 1200 1210 1220 1230 Catch per Area (kg/km^2) 120000 90000 60000 30000 Spring Spring Spring Spring Spring Spring Spring 1240 1270 1280 1290 1300 1340 1351 120000 90000 60000 30000 Spring Spring Spring Spring Spring Spring Spring 1360 1370 1380 1400 1680 1690 1700 120000 90000 60000 30000 TO.02000225950027530 Spring Spring Spring Spring Spring Spring 1710 1720 1730 1740 1750 1760 120000 90000 60000 30000 0.02(MP2H25TD755D02(MP2H25D02(MP2H25 wing area swept

Mspiny 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread Spring Spring Spring Spring Spring Spring Spring 1010 1020 1030 1040 1050 1060 1070 40000 20000 Spring Spring Spring Spring Spring Spring Spring 1080 1090 1100 1110 1120 1130 1140 40000 20000 Spring Spring Spring Spring Spring Spring Spring 1150 1160 1240 1260 1280 1290 1300 40000 ı 20000 0



Smoothskate 2009 Case 2 (Without Zeros, With Fills) Winner = WingSpread



Smoothskate 2010 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall Fall 1160 1040 1150 1170 1180 250 1 1 200 ı ı 1 ī 150 T 100 -50 t Fall Fall Fall Fall Fall 1210 1220 1230 1240 1260 250 ١ ١ 200 ı ı ı 150 ı 1 100 I 50 1 t 0 Catch per Area (kg/km^2) Fall Fall Fall Fall Fall 1270 1280 1290 1300 1340 250 200 1 ı 1 150 100 50 t Fall Fall Fall Fall Fall 1351 1360 1370 1380 1390 250 200 ٠ 1 150 -100 -50 0 0.0220.0240.0260.028 0.0220.0240.0260.028 0.0220.0240.0260.028 0.0220.0240.0260.028 Fall 1400 250 200 150 100 50 0.0220.0240.0260.028 wing_area_swept

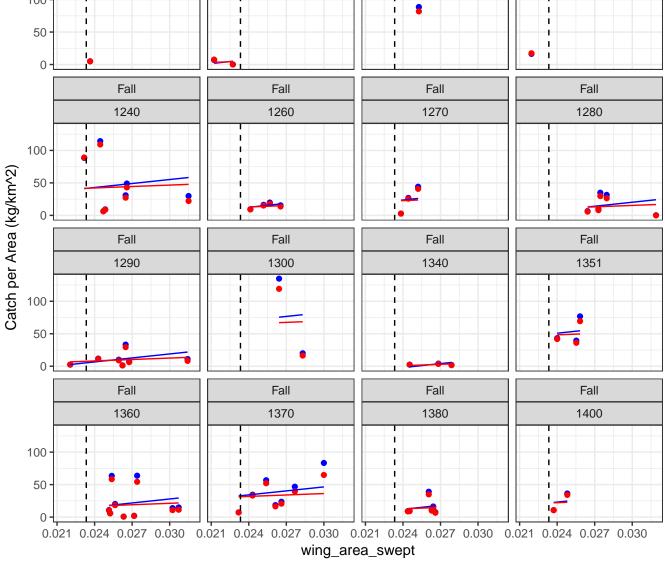
Smoothskate 2011 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Catch per Area (kg/km^2) Fall Fall Fall Fall Fall T0|.02**0**002**125**02**5**0021050300020002**12**502**5**0021050300020002**12**502**5**0021050300 Fall Fall 0.02**0**002**2**502**5**002**7**0503**0**002**0**002**2**502**5**002**7**050300 wing_area_swept

Smoothskate 2012 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall Fall Fall Fall Fall Catch per Area (kg/km^2) Fall Fall Fall Fall Fall Fall Fall Fall wing_area_swept

Smoothskate 2013 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall 1150 1170 1230 1180 150 100 50 0 -Fall Fall Fall Fall 1240 1260 1270 1280 150 100 Catch per Area (kg/km^2) 50 Fall Fall Fall Fall 1290 1300 1351 1360 150 100 50 0 **10**.021 0.023 0.025 0.027 0.02 Fall Fall Fall 1380 1400 1370 150 100 -

50 0.021 0.023 0.025 0.027 0.**029**1 0.023 0.025 0.027 0.**029**1 0.023 0.025 0.027 0.029 wing_area_swept

Smoothskate 2014 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall 1180 1210 1220 1230 100 50 0 Fall Fall Fall Fall 1240 1260 1270 1280



Smoothskate 2015 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall Fall 1240 1170 1180 1220 1230 100 50 0 Fall Fall Fall Fall Fall 1260 1270 1280 1290 1300 100 Catch per Area (kg/km^2) 50 Fall Fall Fall Fall Fall 1340 1351 1360 1370 1380 100 50 0 . 0.0220.0240.0260.028 0.0220.0240.0260.028 0.0220.0240.0260.028 Fall Fall 1400 1390 100 50 0.0220.0240.0260.028 0.0220.0240.0260.028 wing_area_swept

Smoothskate 2016 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall 1210 1180 1220 1230 300 200 100 0 Fall Fall Fall Fall 1240 1260 1270 1280 300 200 Catch per Area (kg/km^2) 100 Fall Fall Fall Fall 1290 1300 1340 1351 300 200 100 0 Fall Fall Fall Fall 1360 1370 1380 1390 300 200 100 0 0.022 0.026 0.022 0.024 0.022 0.022 0.024 0.026 0.024 0.026 0.024 0.026 wing_area_swept

Smoothskate 2017 Case 2 (Without Zeros, With Fills) Winner = WingSpread Fall Fall Fall Fall Fall Fall Fall Fall Catch per Area (kg/km^2) Fall Fall Fall Fall TOI,0180.0200.0220.0240.0260.028 Fall Fall Fall $0.0180.0200.0220.0240.0260. \\ @26180.0200.0220.0240.0260. \\ @26180.0200.0220.0240.0260. \\ @26180.0200.0220.0240.0260. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0200.0220.0240. \\ \\ @26180.0220.0220.0240. \\ \\ @26180.0220.0220.0240. \\ \\ @26180.0220.0220.0240. \\ \\ @26180.0220.0220.0240. \\ \\ @26180.0220.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0220.0240. \\ \\ @26180.0240.0240. \\ \\ @2$ wing_area_swept