## No model adjustment

### OKSIR REGION A

| YEAR | MAE |
| --- | --- |
| 1997 | 0.32221 |
| 1998 | 0.20925 |
| 2000 | 0.32813 |
| 2001 | 0.21157 |
| 2002 | 0.28971 |
| 2004 | 0.3243 |
| 2005 | 0.38903 |
| 2007 | 0.33652 |
| 2008 | 0.25825 |
| 2009 | 0.30883 |
| 2010 | 0.24382 |
| 2011 | 0.28926 |
| 2012 | 0.42614 |
| 2013 | 0.40081 |
| 2015 | 0.23336 |

### 4-YEAR FIELDS

| FIELD/YEAR | MEAN ABSOLUTE ERROR |
| --- | --- |
| AllrCoug/2018 | 0.03496 |
| AllrCoug/2019\* | 0.08885 |
| AllrCoug/2020\* | 0.13185 |
| AllrCoug/2021\* | 0.15346 |
| CRO/2018 | 0.15442 |
| CRO/2019 | 0.07772 |
| CRO/2020 | 0.07929 |
| CRO/2021 | 0.14795 |
| Hansen/2018 | 0.27728 |
| Hansen/2019 | 0.17852 |
| Hansen/2020 | 0.28421 |
| Hansen/2021\* | 0.14714 |
| HoskGibOth/2018 | 0.25395 |
| HoskGibOth/2019 | 0.20119 |
| HoskGibOth/2020\* | 0.10936 |
| HoskGibOth/2021\* | 0.15838 |
| Royal/2018 | 0.25645 |
| Royal/2019 | 0.21382 |
| Royal/2020 | 0.24108 |
| Royal/2021 | 0.30936 |
| ValKoe/2018 | 0.22896 |
| ValKoe/2019 | 0.08686 |
| ValKoe/2020\* | 0.20025 |
| ValKoe/2021\* | 0.08981 |
| fiveEa/2018 | 0.25929 |
| fiveEa/2019 | 0.2209 |
| fiveEa/2020 | 0.17941 |
| fiveEa/2021 | 0.17602 |

* lower than 2.5 cumulative captures per trap

## JW Biofix (=69)

### OKSIR REGION A

| YEAR | MAE | EFFICACY |
| --- | --- | --- |
| 1997 | 0.05086 | 0.00588 |
| 1998 | 0.0377 | 0.00689 |
| 2000 | 0.01895 | 0.00583 |
| 2001 | 0.02626 | 0.00671 |
| 2002 | 0.06403 | 0.00689 |
| 2004 | 0.10268 | 0.00613 |
| 2005 | 0.08502 | 0.00474 |
| 2007 | 0.0638 | 0.00536 |
| 2008 | 0.05134 | 0.00587 |
| 2009 | 0.06376 | 0.00426 |
| 2010 | 0.0469 | 0.00685 |
| 2011 | 0.03576 | 0.00592 |
| 2012 | 0.11417 | 0.00441 |
| 2013 | 0.08382 | 0.00428 |
| 2015 | 0.08757 | 0.00707 |

### 4-YEAR FIELDS

| FIELD/YEAR | MEAN ABSOLUTE ERROR | NET EFFICACY |
| --- | --- | --- |
| AllrCoug/2018 | 0.03079 | 0.09988 |
| AllrCoug/2019\* | 0.08886 | 54835.76196 |
| AllrCoug/2020\* | 0.01823 | 0.01761 |
| AllrCoug/2021\* | 0.06363 | 0.00919 |
| CRO/2018 | 0.03987 | 0.00791 |
| CRO/2019 | 0.07242 | 0.06382 |
| CRO/2020 | 0.07854 | 118337.87592 |
| CRO/2021 | 0.04172 | 0.0094 |
| Hansen/2018 | 0.10712 | 0.00539 |
| Hansen/2019 | 0.05503 | 0.00601 |
| Hansen/2020 | 0.03642 | 0.00508 |
| Hansen/2021\* | 0.05452 | 0.00969 |
| HoskGibOth/2018 | 0.06163 | 0.00551 |
| HoskGibOth/2019 | 0.03879 | 0.00563 |
| HoskGibOth/2020\* | 0.03311 | 0.02323 |
| HoskGibOth/2021\* | 0.14832 | 0.00856 |
| Royal/2018 | 0.04292 | 0.00568 |
| Royal/2019 | 0.04313 | 0.00585 |
| Royal/2020 | 0.03423 | 0.00651 |
| Royal/2021 | 0.03514 | 0.0058 |
| ValKoe/2018 | 0.04392 | 0.006 |
| ValKoe/2019 | 0.0509 | 0.02568 |
| ValKoe/2020\* | 0.02858 | 0.00654 |
| ValKoe/2021\* | 0.05819 | 0.0395 |
| fiveEa/2018 | 0.03027 | 0.00566 |
| fiveEa/2019 | 0.03122 | 0.00622 |
| fiveEa/2020 | 0.08955 | 0.00691 |
| fiveEa/2021 | 0.05199 | 0.00749 |

* lower than 2.5 cumulative captures per trap

## Location Parameter Optimization

| FIELD | MAE |  |
| --- | --- | --- |
| OKSIR | 0.03871 | 143 |
| AllrCoug | 0.03058 | 54 |
| CRO | 0.02944 | 49 |
| Hansen | 0.02698 | 149 |
| HoskGibOth | 0.03487 | 110 |
| Royal | 0.02881 | 138 |
| ValKoe | 0.03665 | 82 |
| fiveEa | 0.02182 | 57 |

AllrCoug2019, Hansen2021, Hosk2021, fiveEa2021 excluded for poor data quality (low sample size or late sampling) and/or extremely non-JSB distributed data for the purposes of correct biofix optimization.

* lower than 2.5 cumulative captures per trap

### OKSIR REGION A

| YEAR | MAE | EFFICACY |
| --- | --- | --- |
| 1997 | 0.01952 | 0.01467 |
| 1998 | 0.01832 | 0.02724 |
| 2000 | 0.04976 | 0.00935 |
| 2001 | 0.02964 | 0.03022 |
| 2002 | 0.02145 | 0.03515 |
| 2004 | 0.04197 | 0.01724 |
| 2005 | 0.04408 | 0.00641 |
| 2007 | 0.02405 | 0.00776 |
| 2008 | 0.02483 | 0.01503 |
| 2009 | 0.03185 | 0.00599 |
| 2010 | 0.05408 | 0.03139 |
| 2011 | 0.06076 | 0.00924 |
| 2012 | 0.0642 | 0.00611 |
| 2013 | 0.05034 | 0.00598 |
| 2015 | 0.04573 | 0.03731 |

### 4-YEAR FIELDS

| FIELD/YEAR | MEAN ABSOLUTE ERROR | NET EFFICACY |
| --- | --- | --- |
| AllrCoug/2018 | 0.03263 | 0.04794 |
| AllrCoug/2019\* | 0.09279 | 0.09057 |
| AllrCoug/2020\* | 0.02418 | 0.01157 |
| AllrCoug/2021\* | 0.05873 | 0.00841 |
| CRO/2018 | 0.03001 | 0.00661 |
| CRO/2019 | 0.07531 | 0.02509 |
| CRO/2020 | 0.08423 | 0.06542 |
| CRO/2021 | 0.03243 | 0.00722 |
| Hansen/2018 | 0.06438 | 0.01297 |
| Hansen/2019 | 0.03982 | 0.01469 |
| Hansen/2020 | 0.02279 | 0.00722 |
| Hansen/2021\* | 0.19198 | 0.01008 |
| HoskGibOth/2018 | 0.06422 | 0.00642 |
| HoskGibOth/2019 | 0.03428 | 0.00649 |
| HoskGibOth/2020\* | 0.02800 | 0.06981 |
| HoskGibOth/2021\* | 0.18456 | 0.00914 |
| Royal/2018 | 0.04085 | 0.01270 |
| Royal/2019 | 0.05525 | 0.01230 |
| Royal/2020 | 0.03982 | 0.02344 |
| Royal/2021 | 0.03126 | 0.01486 |
| ValKoe/2018 | 0.04427 | 0.00630 |
| ValKoe/2019 | 0.05245 | 0.03432 |
| ValKoe/2020\* | 0.02771 | 0.00698 |
| ValKoe/2021\* | 0.05720 | 0.06401 |
| fiveEa/2018 | 0.03624 | 0.00541 |
| fiveEa/2019 | 0.03007 | 0.00592 |
| fiveEa/2020 | 0.08703 | 0.00654 |
| fiveEa/2021 | 0.04628 | 0.00699 |

* lower than 2.5 cumulative captures per trap

## Summaries

|  | UNADJUSTED | ADJUSTED | LOCATION OPTIMIZED |
| --- | --- | --- | --- |
| MAE | 0.22121 | 0.056783 | 0.050915 |

## Parameter tables

### -efficacy function

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 202079171.5 | 7736313.0 | -34506.4 | 437.6 | 0.713 |

|  |  |  |  |
| --- | --- | --- | --- |
| 168914955.9 | 4317538.2 | -1402.0 | 64.43 |

### -efficacy function

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 126265465.6 | 736221.9 | 13332.3 | 334.65 | 1.698 |

|  |  |  |  |
| --- | --- | --- | --- |
| 120413098.3 | -924004.6 | 65919.7 | -317.1 |

### -efficacy function

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0.0011045 | 0.0022809 | 35.110340 | 1.1493792 | 0.4411979 |

### Density-efficacy function

|  |  |
| --- | --- |
| 0.35196 | -1.6111E-3 |

|  |  |
| --- | --- |
| 75.561 | -16.635 |

## Density analysis

| Field | Count | Area (ha) | Density |
| --- | --- | --- | --- |
| AllrCoug/2018 | 64 | 225.56 | 0.283 |
| AllrCoug/2019 | 67 | 226.20 | 0.296 |
| AllrCoug/2020 | 102 | 219.51 | 0.464 |
| AllrCoug/2021 | 58 | 221.96 | 0.261 |
| CRO/2018 | 265 | 772.40 | 0.343 |
| CRO/2019 | 270 | 772.42 | 0.349 |
| CRO/2020 | 212 | 703.12 | 0.301 |
| CRO/2021 | 185 | 657.85 | 0.281 |
| Hansen/2018 | 95 | 163.49 | 0.581 |
| Hansen/2019 | 80 | 163.18 | 0.490 |
| Hansen/2020 | 75 | 160.12 | 0.468 |
| Hansen/2021 | 76 | 162.11 | 0.468 |
| HoskGibOth/2018 | 118 | 303.86 | 0.388 |
| HoskGibOth/2019 | 138 | 305.73 | 0.451 |
| HoskGibOth/2020 | 72 | 288.73 | 0.249 |
| HoskGibOth/2021 | 73 | 285.52 | 0.255 |
| Royal/2018 | 204 | 611.93 | 0.333 |
| Royal/2019 | 150 | 611.44 | 0.245 |
| Royal/2020 | 149 | 602.49 | 0.247 |
| Royal/2021 | 145 | 578.74 | 0.250 |
| ValKoe/2018 | 86 | 229.14 | 0.375 |
| ValKoe/2019 | 47 | 229.04 | 0.205 |
| ValKoe/2020 | 55 | 279.43 | 0.196 |
| ValKoe/2021 | 57 | 278.96 | 0.204 |
| fiveEa/2018 | 48 | 90.89 | 0.528 |
| fiveEa/2019 | 30 | 89.33 | 0.335 |
| fiveEa/2020 | 30 | 88.75 | 0.338 |
| fiveEa/2021 | 17 | 67.856 | 0.250 |