



Environmental Statement
Volume III: Appendix

Appendix F3

Ornithology: Details of the risk matrix
of displacement

Round 3 Zone 2
Firth of Forth
Offshore Wind Farm Development

RESTRICTED COMMERCIAL

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| Revision | Date | Description | Originated By | Checked By | Approved By |

APPENDIX F3: DETAILS OF THE RISK MATRIX OF DISPLACEMENT

Alpha

Risk matrix of displacement relative to mortality for Kittiwake against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 9.9 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.003 | 0.003 | 0.004 |
| | 10 | 0.004 | 0.007 | 0.011 | 0.015 | 0.019 | 0.022 | 0.026 | 0.030 | 0.033 | 0.037 |
| | 20 | 0.007 | 0.015 | 0.022 | 0.030 | 0.037 | 0.044 | 0.052 | 0.059 | 0.067 | 0.074 |
| | 30 | 0.011 | 0.022 | 0.033 | 0.044 | 0.056 | 0.067 | 0.078 | 0.089 | 0.100 | 0.111 |
| | 40 | 0.015 | 0.030 | 0.044 | 0.059 | 0.074 | 0.089 | 0.104 | 0.119 | 0.133 | 0.148 |
| | 50 | 0.018 | 0.037 | 0.056 | 0.074 | 0.093 | 0.111 | 0.130 | 0.148 | 0.167 | 0.185 |
| | 60 | 0.022 | 0.044 | 0.067 | 0.089 | 0.111 | 0.133 | 0.156 | 0.178 | 0.200 | 0.222 |
| | 70 | 0.026 | 0.052 | 0.078 | 0.104 | 0.130 | 0.156 | 0.182 | 0.207 | 0.233 | 0.259 |
| | 80 | 0.029 | 0.059 | 0.089 | 0.119 | 0.148 | 0.178 | 0.207 | 0.237 | 0.267 | 0.296 |
| | 90 | 0.033 | 0.067 | 0.100 | 0.133 | 0.167 | 0.200 | 0.233 | 0.267 | 0.300 | 0.333 |
| | 100 | 0.037 | 0.074 | 0.111 | 0.148 | 0.185 | 0.222 | 0.259 | 0.296 | 0.333 | 0.370 |

Risk matrix of displacement relative to mortality for adult Kittiwake against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 9.9 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.005 | 0.009 | 0.014 | 0.019 | 0.023 | 0.028 | 0.033 | 0.037 | 0.042 | 0.047 |
| | 10 | 0.046 | 0.093 | 0.140 | 0.186 | 0.233 | 0.280 | 0.326 | 0.373 | 0.419 | 0.466 |
| | 20 | 0.092 | 0.186 | 0.280 | 0.373 | 0.466 | 0.559 | 0.652 | 0.745 | 0.839 | 0.932 |
| | 30 | 0.138 | 0.280 | 0.419 | 0.559 | 0.699 | 0.839 | 0.978 | 1.118 | 1.258 | 1.398 |
| | 40 | 0.184 | 0.373 | 0.559 | 0.745 | 0.932 | 1.118 | 1.304 | 1.491 | 1.677 | 1.864 |
| | 50 | 0.231 | 0.466 | 0.699 | 0.932 | 1.165 | 1.398 | 1.631 | 1.864 | 2.096 | 2.329 |
| | 60 | 0.277 | 0.559 | 0.839 | 1.118 | 1.398 | 1.677 | 1.957 | 2.236 | 2.516 | 2.795 |
| | 70 | 0.323 | 0.652 | 0.978 | 1.304 | 1.631 | 1.957 | 2.283 | 2.609 | 2.935 | 3.261 |
| | 80 | 0.369 | 0.745 | 1.118 | 1.491 | 1.864 | 2.236 | 2.609 | 2.982 | 3.354 | 3.727 |
| | 90 | 0.415 | 0.839 | 1.258 | 1.677 | 2.096 | 2.516 | 2.935 | 3.354 | 3.774 | 4.193 |
| | 100 | 0.461 | 0.932 | 1.398 | 1.864 | 2.329 | 2.795 | 3.261 | 3.727 | 4.193 | 4.659 |

Risk matrix of displacement relative to mortality for Guillemot against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.001 | 0.002 | 0.002 | 0.003 | 0.004 | 0.005 | 0.005 | 0.006 | 0.007 | 0.008 |
| | 10 | 0.013 | 0.015 | 0.023 | 0.030 | 0.038 | 0.046 | 0.053 | 0.061 | 0.068 | 0.076 |
| | 20 | 0.026 | 0.030 | 0.046 | 0.061 | 0.076 | 0.091 | 0.107 | 0.122 | 0.137 | 0.152 |
| | 30 | 0.039 | 0.046 | 0.068 | 0.091 | 0.114 | 0.137 | 0.160 | 0.183 | 0.205 | 0.228 |
| | 40 | 0.052 | 0.061 | 0.091 | 0.122 | 0.152 | 0.183 | 0.213 | 0.243 | 0.274 | 0.304 |
| | 50 | 0.065 | 0.076 | 0.114 | 0.152 | 0.190 | 0.228 | 0.266 | 0.304 | 0.342 | 0.380 |
| | 60 | 0.078 | 0.091 | 0.137 | 0.183 | 0.228 | 0.274 | 0.320 | 0.365 | 0.411 | 0.457 |
| | 70 | 0.091 | 0.107 | 0.160 | 0.213 | 0.266 | 0.320 | 0.373 | 0.426 | 0.479 | 0.533 |
| | 80 | 0.103 | 0.122 | 0.183 | 0.243 | 0.304 | 0.365 | 0.426 | 0.487 | 0.548 | 0.609 |
| | 90 | 0.116 | 0.137 | 0.205 | 0.274 | 0.342 | 0.411 | 0.479 | 0.548 | 0.616 | 0.685 |
| | 100 | 0.129 | 0.152 | 0.228 | 0.304 | 0.380 | 0.457 | 0.533 | 0.609 | 0.685 | 0.761 |

Risk matrix of displacement relative to mortality for adult Guillemot against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.009 | 0.011 | 0.017 | 0.022 | 0.028 | 0.033 | 0.039 | 0.044 | 0.050 | 0.055 |
| | 10 | 0.094 | 0.111 | 0.166 | 0.221 | 0.277 | 0.332 | 0.388 | 0.443 | 0.498 | 0.554 |
| | 20 | 0.188 | 0.221 | 0.332 | 0.443 | 0.554 | 0.664 | 0.775 | 0.886 | 0.997 | 1.107 |
| | 30 | 0.282 | 0.332 | 0.498 | 0.664 | 0.831 | 0.997 | 1.163 | 1.329 | 1.495 | 1.661 |
| | 40 | 0.377 | 0.443 | 0.664 | 0.886 | 1.107 | 1.329 | 1.550 | 1.772 | 1.993 | 2.215 |
| | 50 | 0.471 | 0.554 | 0.831 | 1.107 | 1.384 | 1.661 | 1.938 | 2.215 | 2.492 | 2.769 |
| | 60 | 0.565 | 0.664 | 0.997 | 1.329 | 1.661 | 1.993 | 2.326 | 2.658 | 2.990 | 3.322 |
| | 70 | 0.659 | 0.775 | 1.163 | 1.550 | 1.938 | 2.326 | 2.713 | 3.101 | 3.489 | 3.876 |
| | 80 | 0.753 | 0.886 | 1.329 | 1.772 | 2.215 | 2.658 | 3.101 | 3.544 | 3.987 | 4.430 |
| | 90 | 0.847 | 0.997 | 1.495 | 1.993 | 2.492 | 2.990 | 3.489 | 3.987 | 4.485 | 4.984 |
| | 100 | 0.941 | 1.107 | 1.661 | 2.215 | 2.769 | 3.322 | 3.876 | 4.430 | 4.984 | 5.537 |

Risk matrix of displacement relative to mortality for Razorbill against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.001 | 0.001 | 0.002 | 0.003 | 0.004 | 0.004 | 0.005 | 0.006 | 0.007 | 0.007 |
| | 10 | 0.013 | 0.015 | 0.022 | 0.030 | 0.037 | 0.045 | 0.052 | 0.059 | 0.067 | 0.074 |
| | 20 | 0.025 | 0.030 | 0.045 | 0.059 | 0.074 | 0.089 | 0.104 | 0.119 | 0.134 | 0.149 |
| | 30 | 0.038 | 0.045 | 0.067 | 0.089 | 0.111 | 0.134 | 0.156 | 0.178 | 0.201 | 0.223 |
| | 40 | 0.051 | 0.059 | 0.089 | 0.119 | 0.149 | 0.178 | 0.208 | 0.238 | 0.268 | 0.297 |
| | 50 | 0.063 | 0.074 | 0.111 | 0.149 | 0.186 | 0.223 | 0.260 | 0.297 | 0.334 | 0.372 |
| | 60 | 0.076 | 0.089 | 0.134 | 0.178 | 0.223 | 0.268 | 0.312 | 0.357 | 0.401 | 0.446 |
| | 70 | 0.088 | 0.104 | 0.156 | 0.208 | 0.260 | 0.312 | 0.364 | 0.416 | 0.468 | 0.520 |
| | 80 | 0.101 | 0.119 | 0.178 | 0.238 | 0.297 | 0.357 | 0.416 | 0.476 | 0.535 | 0.594 |
| | 90 | 0.114 | 0.134 | 0.201 | 0.268 | 0.334 | 0.401 | 0.468 | 0.535 | 0.602 | 0.669 |
| | 100 | 0.126 | 0.149 | 0.223 | 0.297 | 0.372 | 0.446 | 0.520 | 0.594 | 0.669 | 0.743 |

Risk matrix of displacement relative to mortality for adult Razorbill against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|------|------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.05 | 0.06 | 0.09 | 0.12 | 0.15 | 0.18 | 0.21 | 0.24 | 0.27 | 0.30 |
| | 10 | 0.52 | 0.61 | 0.91 | 1.22 | 1.52 | 1.82 | 2.13 | 2.43 | 2.74 | 3.04 |
| | 20 | 1.03 | 1.22 | 1.82 | 2.43 | 3.04 | 3.65 | 4.26 | 4.86 | 5.47 | 6.08 |
| | 30 | 1.55 | 1.82 | 2.74 | 3.65 | 4.56 | 5.47 | 6.38 | 7.30 | 8.21 | 9.12 |
| | 40 | 2.07 | 2.43 | 3.65 | 4.86 | 6.08 | 7.30 | 8.51 | 9.73 | 10.95 | 12.16 |
| | 50 | 2.58 | 3.04 | 4.56 | 6.08 | 7.60 | 9.12 | 10.64 | 12.16 | 13.68 | 15.20 |
| | 60 | 3.10 | 3.65 | 5.47 | 7.30 | 9.12 | 10.95 | 12.77 | 14.59 | 16.42 | 18.24 |
| | 70 | 3.62 | 4.26 | 6.38 | 8.51 | 10.64 | 12.77 | 14.90 | 17.03 | 19.15 | 21.28 |
| | 80 | 4.14 | 4.86 | 7.30 | 9.73 | 12.16 | 14.59 | 17.03 | 19.46 | 21.89 | 24.32 |
| | 90 | 4.65 | 5.47 | 8.21 | 10.95 | 13.68 | 16.42 | 19.15 | 21.89 | 24.63 | 27.36 |
| | 100 | 5.17 | 6.08 | 9.12 | 12.16 | 15.20 | 18.24 | 21.28 | 24.32 | 27.36 | 30.40 |

Risk matrix of displacement relative to mortality for Puffin against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 |
| | 10 | 0.003 | 0.003 | 0.005 | 0.006 | 0.008 | 0.010 | 0.011 | 0.013 | 0.014 | 0.016 |
| | 20 | 0.005 | 0.006 | 0.010 | 0.013 | 0.016 | 0.019 | 0.022 | 0.026 | 0.029 | 0.032 |
| | 30 | 0.008 | 0.010 | 0.014 | 0.019 | 0.024 | 0.029 | 0.034 | 0.038 | 0.043 | 0.048 |
| | 40 | 0.011 | 0.013 | 0.019 | 0.026 | 0.032 | 0.038 | 0.045 | 0.051 | 0.058 | 0.064 |
| | 50 | 0.014 | 0.016 | 0.024 | 0.032 | 0.040 | 0.048 | 0.056 | 0.064 | 0.072 | 0.080 |
| | 60 | 0.016 | 0.019 | 0.029 | 0.038 | 0.048 | 0.058 | 0.067 | 0.077 | 0.086 | 0.096 |
| | 70 | 0.019 | 0.022 | 0.034 | 0.045 | 0.056 | 0.067 | 0.078 | 0.090 | 0.101 | 0.112 |
| | 80 | 0.022 | 0.026 | 0.038 | 0.051 | 0.064 | 0.077 | 0.090 | 0.102 | 0.115 | 0.128 |
| | 90 | 0.024 | 0.029 | 0.043 | 0.058 | 0.072 | 0.086 | 0.101 | 0.115 | 0.130 | 0.144 |
| | 100 | 0.027 | 0.032 | 0.048 | 0.064 | 0.080 | 0.096 | 0.112 | 0.128 | 0.144 | 0.160 |

Risk matrix of displacement relative to mortality for adult Puffin against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.002 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.008 | 0.009 |
| | 10 | 0.016 | 0.019 | 0.028 | 0.038 | 0.047 | 0.056 | 0.066 | 0.075 | 0.084 | 0.094 |
| | 20 | 0.032 | 0.038 | 0.056 | 0.075 | 0.094 | 0.113 | 0.131 | 0.150 | 0.169 | 0.188 |
| | 30 | 0.048 | 0.056 | 0.084 | 0.113 | 0.141 | 0.169 | 0.197 | 0.225 | 0.253 | 0.281 |
| | 40 | 0.064 | 0.075 | 0.113 | 0.150 | 0.188 | 0.225 | 0.263 | 0.300 | 0.338 | 0.375 |
| | 50 | 0.080 | 0.094 | 0.141 | 0.188 | 0.235 | 0.281 | 0.328 | 0.375 | 0.422 | 0.469 |
| | 60 | 0.096 | 0.113 | 0.169 | 0.225 | 0.281 | 0.338 | 0.394 | 0.450 | 0.507 | 0.563 |
| | 70 | 0.112 | 0.131 | 0.197 | 0.263 | 0.328 | 0.394 | 0.460 | 0.525 | 0.591 | 0.657 |
| | 80 | 0.128 | 0.150 | 0.225 | 0.300 | 0.375 | 0.450 | 0.525 | 0.601 | 0.676 | 0.751 |
| | 90 | 0.144 | 0.169 | 0.253 | 0.338 | 0.422 | 0.507 | 0.591 | 0.676 | 0.760 | 0.844 |
| | 100 | 0.160 | 0.188 | 0.281 | 0.375 | 0.469 | 0.563 | 0.657 | 0.751 | 0.844 | 0.938 |

Bravo

Risk matrix of displacement relative to mortality for Kittiwake against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 9.9 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 |
| | 10 | 0.002 | 0.005 | 0.007 | 0.010 | 0.012 | 0.015 | 0.017 | 0.020 | 0.022 | 0.025 |
| | 20 | 0.005 | 0.010 | 0.015 | 0.020 | 0.025 | 0.030 | 0.035 | 0.040 | 0.044 | 0.049 |
| | 30 | 0.007 | 0.015 | 0.022 | 0.030 | 0.037 | 0.044 | 0.052 | 0.059 | 0.067 | 0.074 |
| | 40 | 0.010 | 0.020 | 0.030 | 0.040 | 0.049 | 0.059 | 0.069 | 0.079 | 0.089 | 0.099 |
| | 50 | 0.012 | 0.025 | 0.037 | 0.049 | 0.062 | 0.074 | 0.086 | 0.099 | 0.111 | 0.123 |
| | 60 | 0.015 | 0.030 | 0.044 | 0.059 | 0.074 | 0.089 | 0.104 | 0.119 | 0.133 | 0.148 |
| | 70 | 0.017 | 0.035 | 0.052 | 0.069 | 0.086 | 0.104 | 0.121 | 0.138 | 0.156 | 0.173 |
| | 80 | 0.020 | 0.040 | 0.059 | 0.079 | 0.099 | 0.119 | 0.138 | 0.158 | 0.178 | 0.198 |
| | 90 | 0.022 | 0.044 | 0.067 | 0.089 | 0.111 | 0.133 | 0.156 | 0.178 | 0.200 | 0.222 |
| | 100 | 0.024 | 0.049 | 0.074 | 0.099 | 0.123 | 0.148 | 0.173 | 0.198 | 0.222 | 0.247 |

Risk matrix of displacement relative to mortality for adult Kittiwake against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 9.9 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.007 | 0.014 | 0.021 | 0.028 | 0.035 | 0.042 | 0.049 | 0.056 | 0.063 | 0.070 |
| | 10 | 0.069 | 0.139 | 0.209 | 0.278 | 0.348 | 0.417 | 0.487 | 0.556 | 0.626 | 0.696 |
| | 20 | 0.138 | 0.278 | 0.417 | 0.556 | 0.696 | 0.835 | 0.974 | 1.113 | 1.252 | 1.391 |
| | 30 | 0.207 | 0.417 | 0.626 | 0.835 | 1.043 | 1.252 | 1.461 | 1.669 | 1.878 | 2.087 |
| | 40 | 0.275 | 0.556 | 0.835 | 1.113 | 1.391 | 1.669 | 1.947 | 2.226 | 2.504 | 2.782 |
| | 50 | 0.344 | 0.696 | 1.043 | 1.391 | 1.739 | 2.087 | 2.434 | 2.782 | 3.130 | 3.478 |
| | 60 | 0.413 | 0.835 | 1.252 | 1.669 | 2.087 | 2.504 | 2.921 | 3.339 | 3.756 | 4.173 |
| | 70 | 0.482 | 0.974 | 1.461 | 1.947 | 2.434 | 2.921 | 3.408 | 3.895 | 4.382 | 4.869 |
| | 80 | 0.551 | 1.113 | 1.669 | 2.226 | 2.782 | 3.339 | 3.895 | 4.451 | 5.008 | 5.564 |
| | 90 | 0.620 | 1.252 | 1.878 | 2.504 | 3.130 | 3.756 | 4.382 | 5.008 | 5.634 | 6.260 |
| | 100 | 0.689 | 1.391 | 2.087 | 2.782 | 3.478 | 4.173 | 4.869 | 5.564 | 6.260 | 6.955 |

Risk matrix of displacement relative to mortality for Guillemot against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.005 |
| | 10 | 0.008 | 0.010 | 0.015 | 0.020 | 0.025 | 0.030 | 0.035 | 0.040 | 0.045 | 0.050 |
| | 20 | 0.017 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.069 | 0.079 | 0.089 | 0.099 |
| | 30 | 0.025 | 0.030 | 0.045 | 0.060 | 0.074 | 0.089 | 0.104 | 0.119 | 0.134 | 0.149 |
| | 40 | 0.034 | 0.040 | 0.060 | 0.079 | 0.099 | 0.119 | 0.139 | 0.159 | 0.179 | 0.198 |
| | 50 | 0.042 | 0.050 | 0.074 | 0.099 | 0.124 | 0.149 | 0.174 | 0.198 | 0.223 | 0.248 |
| | 60 | 0.051 | 0.060 | 0.089 | 0.119 | 0.149 | 0.179 | 0.208 | 0.238 | 0.268 | 0.298 |
| | 70 | 0.059 | 0.069 | 0.104 | 0.139 | 0.174 | 0.208 | 0.243 | 0.278 | 0.312 | 0.347 |
| | 80 | 0.067 | 0.079 | 0.119 | 0.159 | 0.198 | 0.238 | 0.278 | 0.317 | 0.357 | 0.397 |
| | 90 | 0.076 | 0.089 | 0.134 | 0.179 | 0.223 | 0.268 | 0.312 | 0.357 | 0.402 | 0.446 |
| | 100 | 0.084 | 0.099 | 0.149 | 0.198 | 0.248 | 0.298 | 0.347 | 0.397 | 0.446 | 0.496 |

Risk matrix of displacement relative to mortality for adult Guillemot against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.009 | 0.011 | 0.016 | 0.022 | 0.027 | 0.032 | 0.038 | 0.043 | 0.049 | 0.054 |
| | 10 | 0.092 | 0.108 | 0.162 | 0.217 | 0.271 | 0.325 | 0.379 | 0.433 | 0.487 | 0.541 |
| | 20 | 0.184 | 0.217 | 0.325 | 0.433 | 0.541 | 0.650 | 0.758 | 0.866 | 0.974 | 1.083 |
| | 30 | 0.276 | 0.325 | 0.487 | 0.650 | 0.812 | 0.974 | 1.137 | 1.299 | 1.462 | 1.624 |
| | 40 | 0.368 | 0.433 | 0.650 | 0.866 | 1.083 | 1.299 | 1.516 | 1.732 | 1.949 | 2.165 |
| | 50 | 0.460 | 0.541 | 0.812 | 1.083 | 1.353 | 1.624 | 1.895 | 2.165 | 2.436 | 2.707 |
| | 60 | 0.552 | 0.650 | 0.974 | 1.299 | 1.624 | 1.949 | 2.274 | 2.598 | 2.923 | 3.248 |
| | 70 | 0.644 | 0.758 | 1.137 | 1.516 | 1.895 | 2.274 | 2.653 | 3.031 | 3.410 | 3.789 |
| | 80 | 0.736 | 0.866 | 1.299 | 1.732 | 2.165 | 2.598 | 3.031 | 3.465 | 3.898 | 4.331 |
| | 90 | 0.828 | 0.974 | 1.462 | 1.949 | 2.436 | 2.923 | 3.410 | 3.898 | 4.385 | 4.872 |
| | 100 | 0.920 | 1.083 | 1.624 | 2.165 | 2.707 | 3.248 | 3.789 | 4.331 | 4.872 | 5.413 |

Risk matrix of displacement relative to mortality for Razorbill against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 |
| | 10 | 0.004 | 0.004 | 0.006 | 0.008 | 0.010 | 0.012 | 0.014 | 0.016 | 0.019 | 0.021 |
| | 20 | 0.007 | 0.008 | 0.012 | 0.016 | 0.021 | 0.025 | 0.029 | 0.033 | 0.037 | 0.041 |
| | 30 | 0.011 | 0.012 | 0.019 | 0.025 | 0.031 | 0.037 | 0.043 | 0.049 | 0.056 | 0.062 |
| | 40 | 0.014 | 0.016 | 0.025 | 0.033 | 0.041 | 0.049 | 0.058 | 0.066 | 0.074 | 0.082 |
| | 50 | 0.018 | 0.021 | 0.031 | 0.041 | 0.052 | 0.062 | 0.072 | 0.082 | 0.093 | 0.103 |
| | 60 | 0.021 | 0.025 | 0.037 | 0.049 | 0.062 | 0.074 | 0.087 | 0.099 | 0.111 | 0.124 |
| | 70 | 0.025 | 0.029 | 0.043 | 0.058 | 0.072 | 0.087 | 0.101 | 0.115 | 0.130 | 0.144 |
| | 80 | 0.028 | 0.033 | 0.049 | 0.066 | 0.082 | 0.099 | 0.115 | 0.132 | 0.148 | 0.165 |
| | 90 | 0.032 | 0.037 | 0.056 | 0.074 | 0.093 | 0.111 | 0.130 | 0.148 | 0.167 | 0.185 |
| | 100 | 0.035 | 0.041 | 0.062 | 0.082 | 0.103 | 0.124 | 0.144 | 0.165 | 0.185 | 0.206 |

Risk matrix of displacement relative to mortality for adult Razorbill against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.014 | 0.017 | 0.025 | 0.034 | 0.042 | 0.051 | 0.059 | 0.067 | 0.076 | 0.084 |
| | 10 | 0.143 | 0.169 | 0.253 | 0.337 | 0.422 | 0.506 | 0.590 | 0.675 | 0.759 | 0.843 |
| | 20 | 0.287 | 0.337 | 0.506 | 0.675 | 0.843 | 1.012 | 1.181 | 1.349 | 1.518 | 1.687 |
| | 30 | 0.430 | 0.506 | 0.759 | 1.012 | 1.265 | 1.518 | 1.771 | 2.024 | 2.277 | 2.530 |
| | 40 | 0.573 | 0.675 | 1.012 | 1.349 | 1.687 | 2.024 | 2.361 | 2.699 | 3.036 | 3.373 |
| | 50 | 0.717 | 0.843 | 1.265 | 1.687 | 2.108 | 2.530 | 2.952 | 3.373 | 3.795 | 4.216 |
| | 60 | 0.860 | 1.012 | 1.518 | 2.024 | 2.530 | 3.036 | 3.542 | 4.048 | 4.554 | 5.060 |
| | 70 | 1.004 | 1.181 | 1.771 | 2.361 | 2.952 | 3.542 | 4.132 | 4.722 | 5.313 | 5.903 |
| | 80 | 1.147 | 1.349 | 2.024 | 2.699 | 3.373 | 4.048 | 4.722 | 5.397 | 6.072 | 6.746 |
| | 90 | 1.290 | 1.518 | 2.277 | 3.036 | 3.795 | 4.554 | 5.313 | 6.072 | 6.831 | 7.590 |
| | 100 | 1.434 | 1.687 | 2.530 | 3.373 | 4.216 | 5.060 | 5.903 | 6.746 | 7.590 | 8.433 |

Risk matrix of displacement relative to mortality for Puffin against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.003 | 0.003 |
| | 10 | 0.005 | 0.006 | 0.009 | 0.012 | 0.016 | 0.019 | 0.022 | 0.025 | 0.028 | 0.031 |
| | 20 | 0.011 | 0.012 | 0.019 | 0.025 | 0.031 | 0.037 | 0.044 | 0.050 | 0.056 | 0.062 |
| | 30 | 0.016 | 0.019 | 0.028 | 0.037 | 0.047 | 0.056 | 0.066 | 0.075 | 0.084 | 0.094 |
| | 40 | 0.021 | 0.025 | 0.037 | 0.050 | 0.062 | 0.075 | 0.087 | 0.100 | 0.112 | 0.125 |
| | 50 | 0.027 | 0.031 | 0.047 | 0.062 | 0.078 | 0.094 | 0.109 | 0.125 | 0.140 | 0.156 |
| | 60 | 0.032 | 0.037 | 0.056 | 0.075 | 0.094 | 0.112 | 0.131 | 0.150 | 0.169 | 0.187 |
| | 70 | 0.037 | 0.044 | 0.066 | 0.087 | 0.109 | 0.131 | 0.153 | 0.175 | 0.197 | 0.219 |
| | 80 | 0.042 | 0.050 | 0.075 | 0.100 | 0.125 | 0.150 | 0.175 | 0.200 | 0.225 | 0.250 |
| | 90 | 0.048 | 0.056 | 0.084 | 0.112 | 0.140 | 0.169 | 0.197 | 0.225 | 0.253 | 0.281 |
| | 100 | 0.053 | 0.062 | 0.094 | 0.125 | 0.156 | 0.187 | 0.219 | 0.250 | 0.281 | 0.312 |

Risk matrix of displacement relative to mortality for adult Puffin against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.003 | 0.004 | 0.005 | 0.007 | 0.009 | 0.011 | 0.013 | 0.015 | 0.016 | 0.018 |
| | 10 | 0.031 | 0.037 | 0.055 | 0.073 | 0.092 | 0.110 | 0.128 | 0.146 | 0.165 | 0.183 |
| | 20 | 0.062 | 0.073 | 0.110 | 0.146 | 0.183 | 0.220 | 0.256 | 0.293 | 0.330 | 0.366 |
| | 30 | 0.093 | 0.110 | 0.165 | 0.220 | 0.275 | 0.330 | 0.385 | 0.439 | 0.494 | 0.549 |
| | 40 | 0.125 | 0.146 | 0.220 | 0.293 | 0.366 | 0.439 | 0.513 | 0.586 | 0.659 | 0.732 |
| | 50 | 0.156 | 0.183 | 0.275 | 0.366 | 0.458 | 0.549 | 0.641 | 0.732 | 0.824 | 0.916 |
| | 60 | 0.187 | 0.220 | 0.330 | 0.439 | 0.549 | 0.659 | 0.769 | 0.879 | 0.989 | 1.099 |
| | 70 | 0.218 | 0.256 | 0.385 | 0.513 | 0.641 | 0.769 | 0.897 | 1.025 | 1.154 | 1.282 |
| | 80 | 0.249 | 0.293 | 0.439 | 0.586 | 0.732 | 0.879 | 1.025 | 1.172 | 1.318 | 1.465 |
| | 90 | 0.280 | 0.330 | 0.494 | 0.659 | 0.824 | 0.989 | 1.154 | 1.318 | 1.483 | 1.648 |
| | 100 | 0.311 | 0.366 | 0.549 | 0.732 | 0.916 | 1.099 | 1.282 | 1.465 | 1.648 | 1.831 |

Project Seagreen

Risk matrix of displacement relative to mortality for Kittiwake against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 10.3 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.001 | 0.001 | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.005 | 0.006 | 0.006 |
| | 10 | 0.008 | 0.013 | 0.019 | 0.026 | 0.032 | 0.039 | 0.045 | 0.051 | 0.058 | 0.064 |
| | 20 | 0.017 | 0.026 | 0.039 | 0.051 | 0.064 | 0.077 | 0.090 | 0.103 | 0.116 | 0.129 |
| | 30 | 0.025 | 0.039 | 0.058 | 0.077 | 0.096 | 0.116 | 0.135 | 0.154 | 0.173 | 0.193 |
| | 40 | 0.033 | 0.051 | 0.077 | 0.103 | 0.129 | 0.154 | 0.180 | 0.206 | 0.231 | 0.257 |
| | 50 | 0.042 | 0.064 | 0.096 | 0.129 | 0.161 | 0.193 | 0.225 | 0.257 | 0.289 | 0.321 |
| | 60 | 0.050 | 0.077 | 0.116 | 0.154 | 0.193 | 0.231 | 0.270 | 0.308 | 0.347 | 0.386 |
| | 70 | 0.058 | 0.090 | 0.135 | 0.180 | 0.225 | 0.270 | 0.315 | 0.360 | 0.405 | 0.450 |
| | 80 | 0.067 | 0.103 | 0.154 | 0.206 | 0.257 | 0.308 | 0.360 | 0.411 | 0.463 | 0.514 |
| | 90 | 0.075 | 0.116 | 0.173 | 0.231 | 0.289 | 0.347 | 0.405 | 0.463 | 0.520 | 0.578 |
| | 100 | 0.084 | 0.129 | 0.193 | 0.257 | 0.321 | 0.386 | 0.450 | 0.514 | 0.578 | 0.643 |

Risk matrix of displacement relative to mortality for adult Kittiwake against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| | | 10.3 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.015 | 0.023 | 0.035 | 0.046 | 0.058 | 0.070 | 0.081 | 0.093 | 0.105 | 0.116 |
| | 10 | 0.151 | 0.232 | 0.348 | 0.465 | 0.581 | 0.697 | 0.813 | 0.929 | 1.045 | 1.161 |
| | 20 | 0.302 | 0.465 | 0.697 | 0.929 | 1.161 | 1.394 | 1.626 | 1.858 | 2.091 | 2.323 |
| | 30 | 0.453 | 0.697 | 1.045 | 1.394 | 1.742 | 2.091 | 2.439 | 2.787 | 3.136 | 3.484 |
| | 40 | 0.604 | 0.929 | 1.394 | 1.858 | 2.323 | 2.787 | 3.252 | 3.717 | 4.181 | 4.646 |
| | 50 | 0.755 | 1.161 | 1.742 | 2.323 | 2.904 | 3.484 | 4.065 | 4.646 | 5.226 | 5.807 |
| | 60 | 0.906 | 1.394 | 2.091 | 2.787 | 3.484 | 4.181 | 4.878 | 5.575 | 6.272 | 6.969 |
| | 70 | 1.057 | 1.626 | 2.439 | 3.252 | 4.065 | 4.878 | 5.691 | 6.504 | 7.317 | 8.130 |
| | 80 | 1.208 | 1.858 | 2.787 | 3.717 | 4.646 | 5.575 | 6.504 | 7.433 | 8.362 | 9.291 |
| | 90 | 1.359 | 2.091 | 3.136 | 4.181 | 5.226 | 6.272 | 7.317 | 8.362 | 9.408 | 10.453 |
| | 100 | 1.510 | 2.323 | 3.484 | 4.646 | 5.807 | 6.969 | 8.130 | 9.291 | 10.453 | 11.614 |

Risk matrix of displacement relative to mortality for Guillemot against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17.7 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.002 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 | 0.010 |
| | 10 | 0.018 | 0.020 | 0.030 | 0.040 | 0.050 | 0.060 | 0.070 | 0.080 | 0.090 | 0.100 |
| | 20 | 0.036 | 0.040 | 0.060 | 0.080 | 0.100 | 0.120 | 0.140 | 0.160 | 0.181 | 0.201 |
| | 30 | 0.053 | 0.060 | 0.090 | 0.120 | 0.150 | 0.181 | 0.211 | 0.241 | 0.271 | 0.301 |
| | 40 | 0.071 | 0.080 | 0.120 | 0.160 | 0.201 | 0.241 | 0.281 | 0.321 | 0.361 | 0.401 |
| | 50 | 0.089 | 0.100 | 0.150 | 0.201 | 0.251 | 0.301 | 0.351 | 0.401 | 0.451 | 0.502 |
| | 60 | 0.107 | 0.120 | 0.181 | 0.241 | 0.301 | 0.361 | 0.421 | 0.481 | 0.542 | 0.602 |
| | 70 | 0.124 | 0.140 | 0.211 | 0.281 | 0.351 | 0.421 | 0.492 | 0.562 | 0.632 | 0.702 |
| | 80 | 0.142 | 0.160 | 0.241 | 0.321 | 0.401 | 0.481 | 0.562 | 0.642 | 0.722 | 0.802 |
| | 90 | 0.160 | 0.181 | 0.271 | 0.361 | 0.451 | 0.542 | 0.632 | 0.722 | 0.813 | 0.903 |
| | 100 | 0.178 | 0.201 | 0.301 | 0.401 | 0.502 | 0.602 | 0.702 | 0.802 | 0.903 | 1.003 |

Risk matrix of displacement relative to mortality for adult Guillemot against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| | | 17.7 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.019 | 0.022 | 0.033 | 0.044 | 0.055 | 0.066 | 0.077 | 0.088 | 0.099 | 0.110 |
| | 10 | 0.194 | 0.219 | 0.329 | 0.438 | 0.548 | 0.657 | 0.767 | 0.876 | 0.986 | 1.095 |
| | 20 | 0.388 | 0.438 | 0.657 | 0.876 | 1.095 | 1.314 | 1.533 | 1.752 | 1.971 | 2.190 |
| | 30 | 0.581 | 0.657 | 0.986 | 1.314 | 1.643 | 1.971 | 2.300 | 2.628 | 2.957 | 3.285 |
| | 40 | 0.775 | 0.876 | 1.314 | 1.752 | 2.190 | 2.628 | 3.066 | 3.504 | 3.942 | 4.380 |
| | 50 | 0.969 | 1.095 | 1.643 | 2.190 | 2.738 | 3.285 | 3.833 | 4.380 | 4.928 | 5.475 |
| | 60 | 1.163 | 1.314 | 1.971 | 2.628 | 3.285 | 3.942 | 4.599 | 5.256 | 5.913 | 6.570 |
| | 70 | 1.357 | 1.533 | 2.300 | 3.066 | 3.833 | 4.599 | 5.366 | 6.132 | 6.899 | 7.665 |
| | 80 | 1.551 | 1.752 | 2.628 | 3.504 | 4.380 | 5.256 | 6.132 | 7.008 | 7.884 | 8.761 |
| | 90 | 1.744 | 1.971 | 2.957 | 3.942 | 4.928 | 5.913 | 6.899 | 7.884 | 8.870 | 9.856 |
| | 100 | 1.938 | 2.190 | 3.285 | 4.380 | 5.475 | 6.570 | 7.665 | 8.761 | 9.856 | 10.951 |

Risk matrix of displacement relative to mortality for Razorbill against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17.7 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 |
| | 10 | 0.004 | 0.004 | 0.006 | 0.008 | 0.010 | 0.012 | 0.014 | 0.016 | 0.019 | 0.021 |
| | 20 | 0.007 | 0.008 | 0.012 | 0.016 | 0.021 | 0.025 | 0.029 | 0.033 | 0.037 | 0.041 |
| | 30 | 0.011 | 0.012 | 0.019 | 0.025 | 0.031 | 0.037 | 0.043 | 0.049 | 0.056 | 0.062 |
| | 40 | 0.014 | 0.016 | 0.025 | 0.033 | 0.041 | 0.049 | 0.058 | 0.066 | 0.074 | 0.082 |
| | 50 | 0.018 | 0.021 | 0.031 | 0.041 | 0.052 | 0.062 | 0.072 | 0.082 | 0.093 | 0.103 |
| | 60 | 0.021 | 0.025 | 0.037 | 0.049 | 0.062 | 0.074 | 0.087 | 0.099 | 0.111 | 0.124 |
| | 70 | 0.025 | 0.029 | 0.043 | 0.058 | 0.072 | 0.087 | 0.101 | 0.115 | 0.130 | 0.144 |
| | 80 | 0.028 | 0.033 | 0.049 | 0.066 | 0.082 | 0.099 | 0.115 | 0.132 | 0.148 | 0.165 |
| | 90 | 0.032 | 0.037 | 0.056 | 0.074 | 0.093 | 0.111 | 0.130 | 0.148 | 0.167 | 0.185 |
| | 100 | 0.035 | 0.041 | 0.062 | 0.082 | 0.103 | 0.124 | 0.144 | 0.165 | 0.185 | 0.206 |

Risk matrix of displacement relative to mortality for adult Razorbill against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17.7 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.002 | 0.002 | 0.003 | 0.004 | 0.005 | 0.006 | 0.007 | 0.008 | 0.009 | 0.009 |
| | 10 | 0.017 | 0.019 | 0.028 | 0.038 | 0.047 | 0.057 | 0.066 | 0.076 | 0.085 | 0.095 |
| | 20 | 0.034 | 0.038 | 0.057 | 0.076 | 0.095 | 0.114 | 0.133 | 0.152 | 0.171 | 0.190 |
| | 30 | 0.050 | 0.057 | 0.085 | 0.114 | 0.142 | 0.171 | 0.199 | 0.228 | 0.256 | 0.285 |
| | 40 | 0.067 | 0.076 | 0.114 | 0.152 | 0.190 | 0.228 | 0.266 | 0.304 | 0.342 | 0.380 |
| | 50 | 0.084 | 0.095 | 0.142 | 0.190 | 0.237 | 0.285 | 0.332 | 0.380 | 0.427 | 0.475 |
| | 60 | 0.101 | 0.114 | 0.171 | 0.228 | 0.285 | 0.342 | 0.399 | 0.456 | 0.513 | 0.570 |
| | 70 | 0.118 | 0.133 | 0.199 | 0.266 | 0.332 | 0.399 | 0.465 | 0.532 | 0.598 | 0.664 |
| | 80 | 0.134 | 0.152 | 0.228 | 0.304 | 0.380 | 0.456 | 0.532 | 0.608 | 0.683 | 0.759 |
| | 90 | 0.151 | 0.171 | 0.256 | 0.342 | 0.427 | 0.513 | 0.598 | 0.683 | 0.769 | 0.854 |
| | 100 | 0.168 | 0.190 | 0.285 | 0.380 | 0.475 | 0.570 | 0.664 | 0.759 | 0.854 | 0.949 |

Risk matrix of displacement relative to mortality for Puffin against the national population.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17.7 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.003 | 0.003 | 0.004 | 0.004 | 0.005 |
| | 10 | 0.008 | 0.009 | 0.014 | 0.019 | 0.024 | 0.028 | 0.033 | 0.038 | 0.042 | 0.047 |
| | 20 | 0.017 | 0.019 | 0.028 | 0.038 | 0.047 | 0.057 | 0.066 | 0.076 | 0.085 | 0.094 |
| | 30 | 0.025 | 0.028 | 0.042 | 0.057 | 0.071 | 0.085 | 0.099 | 0.113 | 0.127 | 0.142 |
| | 40 | 0.033 | 0.038 | 0.057 | 0.076 | 0.094 | 0.113 | 0.132 | 0.151 | 0.170 | 0.189 |
| | 50 | 0.042 | 0.047 | 0.071 | 0.094 | 0.118 | 0.142 | 0.165 | 0.189 | 0.212 | 0.236 |
| | 60 | 0.050 | 0.057 | 0.085 | 0.113 | 0.142 | 0.170 | 0.198 | 0.227 | 0.255 | 0.283 |
| | 70 | 0.058 | 0.066 | 0.099 | 0.132 | 0.165 | 0.198 | 0.231 | 0.264 | 0.297 | 0.330 |
| | 80 | 0.067 | 0.076 | 0.113 | 0.151 | 0.189 | 0.227 | 0.264 | 0.302 | 0.340 | 0.378 |
| | 90 | 0.075 | 0.085 | 0.127 | 0.170 | 0.212 | 0.255 | 0.297 | 0.340 | 0.382 | 0.425 |
| | 100 | 0.084 | 0.094 | 0.142 | 0.189 | 0.236 | 0.283 | 0.330 | 0.378 | 0.425 | 0.472 |

Risk matrix of displacement relative to mortality for adult Puffin against the breeding population at designated colonies within foraging range.

| | | Displacement (%) | | | | | | | | | |
|---------------|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 17.7 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Mortality (%) | 1 | 0.005 | 0.006 | 0.008 | 0.011 | 0.014 | 0.017 | 0.019 | 0.022 | 0.025 | 0.028 |
| | 10 | 0.049 | 0.055 | 0.083 | 0.111 | 0.138 | 0.166 | 0.194 | 0.222 | 0.249 | 0.277 |
| | 20 | 0.098 | 0.111 | 0.166 | 0.222 | 0.277 | 0.332 | 0.388 | 0.443 | 0.499 | 0.554 |
| | 30 | 0.147 | 0.166 | 0.249 | 0.332 | 0.415 | 0.499 | 0.582 | 0.665 | 0.748 | 0.831 |
| | 40 | 0.196 | 0.222 | 0.332 | 0.443 | 0.554 | 0.665 | 0.775 | 0.886 | 0.997 | 1.108 |
| | 50 | 0.245 | 0.277 | 0.415 | 0.554 | 0.692 | 0.831 | 0.969 | 1.108 | 1.246 | 1.385 |
| | 60 | 0.294 | 0.332 | 0.499 | 0.665 | 0.831 | 0.997 | 1.163 | 1.329 | 1.496 | 1.662 |
| | 70 | 0.343 | 0.388 | 0.582 | 0.775 | 0.969 | 1.163 | 1.357 | 1.551 | 1.745 | 1.939 |
| | 80 | 0.392 | 0.443 | 0.665 | 0.886 | 1.108 | 1.329 | 1.551 | 1.772 | 1.994 | 2.216 |
| | 90 | 0.441 | 0.499 | 0.748 | 0.997 | 1.246 | 1.496 | 1.745 | 1.994 | 2.243 | 2.493 |
| | 100 | 0.490 | 0.554 | 0.831 | 1.108 | 1.385 | 1.662 | 1.939 | 2.216 | 2.493 | 2.769 |