SCHULTE, S.A. & SIMONS, T.R. 2015. Factors affecting the reproductive success of American Oystercatchers *Haematopus* *palliatus* on the Outer Banks of North Carolina. *Marine Ornithology* 43: 37-47.

APPENDIX 1

American Oystercatcher productivity in North Carolina (1995-2008)

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|  |
| Year and Location | Breeding pairs | Nests | Nests hatched | Nest survival observed (SE) | Nest survival adjusted (SE) | Chicks fledged | Chick Survival (SE) | Chicks fledged/pair (SE) |
| **CAPE LOOKOUT** |
|  North Core Banks |   |   |   |   |   |   |
| 1998 | 38 | 72 | 5 | 0.069 (0.030) | NA | 4 | NA | 0.105 (0.062) |
| 1999 | 39 | 62 | 11 | 0.177 (0.049) | 0.170 (0.042) | 5 | 0.208 (0.083) | 0.128 (0.061) |
| 2000 | 29 | 36 | 7 | 0.194 (0.066) | 0.248 (0.068) | 1 | 0.059 (0.057) | 0.034 (0.034) |
| 2001 | 29 | 53 | 12 | 0.226 (0.057) | 0.173 (0.049) | 1 | 0.091 (0.061) | 0.034 (0.034) |
| 2002 | 23 | 46 | 4 | 0.087 (0.042) | 0.084 (0.033) | 5 | 0.455 (0.150) | 0.217 (0.125) |
| 2003 | 20 | 36 | 7 | 0.194 (0.066) | 0.157 (0.053) | 2 | 0.118 (0.078) | 0.100 (0.069) |
| 2004 | 21 | 25 | 20 | 0.800 (0.080) | 0.772 (0.089) | 31 | 0.608 (0.068) | 1.476 (0.255) |
| 2005 | 16 | 20 | 11 | 0.550 (0.111) | 0.453 (0.120) | 6 | 0.286 (0.099) | 0.375 (0.155) |
| 2006 | 14 | 18 | 8 | 0.444 (0.117) | 0.399 (0.116) | 5 | 0.263 (0.101) | 0.357 (0.133) |
| 2007 | 17 | 32 | 8 | 0.250 (0.077) | 0.191 (0.065) | 14 | 0.778 (0.098) | 0.824 (0.261) |
| 2008 | 14 | 22 | 4 | 0.182 (0.082) | 0.248 (0.084) | 3 | 0.429 (0.187) | 0.214 (0.114) |
| Island | 260 | 422 | 97 | 0.230 (0.020) | 0.228 (0.021) | 77 | 0.376 (0.035) | 0.296 (0.043) |
| Middle Core Banks |  |  |  |  |  |  |  |
| 2004 | 5 | 5 | 4 | 0.800 (0.179 | NA | 7 | 0.875 (0.117) | 1.400 (0.510) |
| 2005 | 7 | 9 | 5 | 0.556 (0.166) | 0.511 (0.172) | 9 | 0.643 (0.128) | 1.286 (0.474) |
| 2006 | 8 | 9 | 7 | 0.778 (0.139 | 0.745 (0.155) | 8 | 0.500 (0.125) | 1.000 (0.267) |
| 2007 | 11 | 11 | 7 | 0.636 (0.145) | 0.570 (0.160) | 10 | 0.833 (0.108) | 0.909 (0.315) |
| 2008 | 6 | 6 | 4 | 0.667 (0.192) | NA | 7 | 0.875 (0.117) | 1.167 (0.477) |
| Island | 37 | 40 | 27 | 0.675 (0.074) | 0.604 (0.096) | 41 | 0.707 (0.060) | 1.108 (0.168) |
| Ophelia Banks |  |  |  |  |  |  |
| 2007 | 2 | 3 | 2 | 0.667 (0.272) | NA | 3 | 0.750 (0.217) | 1.500 (0.500) |
| 2008 | 2 | 2 | 1 | 0.500 (0.354) | NA | 0 | 0.000 (0.000) | 0.000 (0.000) |
| Island | 4 | 5 | 3 | 0.600 (0.219) | NA | 3 | 0.500 (0.204) | 0.750 (0.479) |
| South Core Banks |  |  |  |  |  |  |
| 1995 | 20 | 36 | 12 | 0.333 (0.079) | NA | 7 | NA | 0.350 (0.131) |
| 1997 | 23 | 34 | 4 | 0.118 (0.055) | 0.036 (0.022) | 2 | 0.286 (0.171) | 0.087 (0.060) |
| 1998 | 20 | 26 | 7 | 0.269 (0.087) | 0.135 (0.062) | 3 | 0.214 (0.110) | 0.150 (0.082) |
| 1999 | 28 | 52 | 5 | 0.096 (0.041) | 0.115 (0.036) | 1 | 0.125 (0.117) | 0.036 (0.036) |
| 2000 | 25 | 38 | 18 | 0.474 (0.081) | 0.303 (0.077) | 6 | 0.120 (0.046) | 0.240 (0.087) |
| 2001 | 27 | 56 | 8 | 0.143 (0.047) | 0.158 (0.042) | 1 | 0.050 (0.049) | 0.037 (0.036) |
| 2002 | 23 | 43 | 4 | 0.093 (0.044) | 0.061 (0.028) | 1 | 0.143 (0.132) | 0.043 (0.043) |
| 2003 | 27 | 59 | 9 | 0.153 (0.047) | 0.121 (0.036) | 6 | 0.273 (0.095) | 0.222 (0.096) |
| 2004 | 20 | 33 | 13 | 0.394 (0.085) | 0.279 (0.080) | 6 | 0.231 (0.083) | 0.300 (0.147) |
| 2005 | 22 | 27 | 9 | 0.333 (0.091) | 0.317 (0.086) | 3 | 0.188 (0.098) | 0.136 (0.068) |
| 2006 | 19 | 31 | 6 | 0.194 (0.071) | 0.203 (0.065) | 10 | 0.769 (0.117) | 0.526 (0.246) |
| 2007 | 21 | 41 | 4 | 0.098 (0.046) | 0.073 (0.032) | 4 | 0.571 (0.187) | 0.190 (0.131) |
| 2008 | 24 | 44 | 5 | 0.114 (0.048) | 0.087 (0.034) | 5 | 0.625 (0.171) | 0.208 (0.120) |
| Island | 299 | 520 | 104 | 0.200 (0.018) | 0.139 (0.014) | 55 | 0.242 (0.030) | 0.184 (0.027) |
| Shackleford Banks |  |  |  |  |  |  |
| 2003 | 7 | 10 | 1 | 0.100 (0.095) | NA | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2004 | 6 | 8 | 1 | 0.125 (0.117) | NA | 1 | 1.000 (0.000) | 0.167 (0.408) |
| 2005 | 9 | 10 | 1 | 0.100 (0.095) | NA | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2006 | 9 | 11 | 1 | 0.091 (0.087) | 0.071 (0.061) | 1 | 1.000 (0.000) | 0.111 (0.011) |
| 2007 | 10 | 12 | 0 | 0.000 (0.000) | 0.110 (0.088) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2008 | 11 | 17 | 3 | 0.176 (0.092) | 0.059 (0.046) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| Island | 52 | 68 | 7 | 0.103 (0.037) | 0.075 (0.035) | 2 | 0.167 (0.108) | 0.038 (0.027) |
| **CAPE HATTERAS** |
| Ocracoke Island |  |  |  |  |  |  |
| 1999 | 15 | 17 | 7 | 0.412 (0.119) | 0.321 (0.105) | 2 | 0.182 (0.116) | 0.133 (0.091) |
| 2000 | 12 | 17 | 6 | 0.353 (0.116) | 0.270 (0.107) | 7 | 0.778 (0.139) | 0.583 (0.260) |
| 2001 | 13 | 15 | 11 | 0.733 (0.114) | 0.624 (0.132) | 12 | 0.600 (0.110) | 0.923 (0.265) |
| 2002 | 12 | 18 | 6 | 0.333 (0.111) | 0.266 (0.102) | 3 | 0.250 (0.125) | 0.250 (0.131) |
| 2003 | 8 | 12 | 4 | 0.333 (0.136) | 0.255 (0.117) | 1 | 0.250 (0.217) | 0.125 (0.125) |
| 2004 | 9 | 11 | 6 | 0.545 (0.150) | 0.566 (0.144) | 8 | 0.727 (0.134) | 0.889 (0.309) |
| 2005 | 5 | 10 | 3 | 0.300 (0.145) | 0.295 (0.136) | 1 | 0.167 (0.152) | 0.200 (0.200) |
| 2006 | 5 | 8 | 4 | 0.500 (0.177) | 0.492 (0.202) | 2 | 0.182 (0.116) | 0.400 (0.400) |
| 2007 | 5 | 12 | 3 | 0.250 (0.125) | 0.102 (0.078) | 1 | 0.250 (0.217) | 0.200 (0.200) |
| 2008 | 3 | 3 | 1 | 0.333 (0.272) | 0.347 (0.260) | 2 | 1.000 (0.000) | 0.667 (0.667) |
| Island | 87 | 135 | 51 | 0.415 (0.044) | 0.341 (0.042) | 39 | 0.433 (0.052) | 0.448 (0.080) |
| Hatteras Island |  |  |  |  |  |  |
| 1999 | 24 | 31 | 7 | 0.226 (0.075) | 0.287 (0.087) | 3 | 0.273 (0.134) | 0.125 (0.069) |
| 2000 | 23 | 29 | 10 | 0.345 (0.088) | 0.270 (0.081) | 2 | 0.087 (0.059) | 0.087 (0.060) |
| 2001 | 24 | 28 | 10 | 0.357 (0.091) | 0.259 (0.083) | 7 | 0.389 (0.115) | 0.292 (0.112) |
| 2002 | 17 | 25 | 3 | 0.120 (0.065) | 0.030 (0.023) | 4 | 0.800 (0.179) | 0.235 (0.136) |
| 2003 | 16 | 23 | 10 | 0.435 (0.103) | 0.372 (0.106) | 6 | 0.286 (0.099) | 0.375 (0.155) |
| 2004 | 15 | 18 | 13 | 0.722 (0.106) | 0.706 (0.110) | 9 | 0.360 (0.096) | 0.600 (0.235) |
| 2005 | 17 | 25 | 16 | 0.640 (0.096) | 0.501 (0.110) | 10 | 0.417 (0.101) | 0.588 (0.196) |
| 2006 | 14 | 19 | 11 | 0.579 (0.113) | 0.525 (0.120) | 6 | 0.316 (0.107) | 0.429 (0.202) |
| 2007 | 15 | 21 | 10 | 0.476 (0.109) | 0.477 (0.102) | 9 | 0.450 (0.111) | 0.600 (0.235) |
| 2008 | 15 | 20 | 9 | 0.450 (0.111) | 0.565 (0.102) | 11 | 0.611 (0.115) | 0.733 (0.267) |
| Island | 180 | 239 | 99 | 0.414 (0.032) | 0.373 (0.032) | 67 | 0.364 (0.035) | 0.372 (0.052) |
| Bodie Island |  |  |  |  |  |  |
| 1999 | 2 | 3 | 0 | 0.000 (0.030) | 0.030 (0.035) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2000 | 2 | 3 | 0 | 0.000 (0.081) | 0.081 (081) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2001 | 2 | 3 | 1 | 0.333 (0.272) | 0.285 (0.253) | 1 | 0.500 (0.354) | 0.500 (0.500) |
| 2002 | 2 | 5 | 1 | 0.200 (0.179) | 0.138 (0.137) | 2 | 1.000 (0.000) | 1.000 (1.000) |
| 2003 | 5 | 5 | 1 | 0.200 (0.179) | 0.311 (0.182) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2004 | 3 | 6 | 0 | 0.000 (0.000) | 0.091 (0.089) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2005 | 2 | 3 | 1 | 0.333 (0.272) | 0.390 (0.260) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2006 | 2 | 2 | 1 | 0.500 (0.354) | 0.400 (0.367) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2007 | 2 | 2 | 1 | 0.500 (0.354) | 0.545 (0.331) | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2008 | 3 | 5 | 2 | 0.400 (0.219) | 0.361 (0.212) | 2 | 0.100 (0.000) | 0.667 (0.333) |
| Island | 25 | 37 | 8 | 0.216 (0.068) | 0.191 (0.053) | 5 | 0.417 (0.142) | 0.200 (0.100) |
| Green Island |  |  |  |  |  |  |
| 2004 | 2 | 3 | 2 | 0.667 (0.272) | NA | 2 | 0.500 (0.250) | 1.000 (1.000) |
| 2005 | 2 | 3 | 2 | 0.667 (0.272) | NA | 0 | 0.000 (0.000) | 0.000 (0.000) |
| 2006 | 2 | 2 | 2 | 1.000 (0.000) | NA | 2 | 1.000 (0.000) | 1.000 (0.000) |
| 2007 | 2 | 2 | 1 | 0.500 (0.354) | NA | 2 | 0.667 (0.272) | 1.000 (1.000) |
| 2008 | 2 | 4 | 1 | 0.150 (0.217) | NA | 2 | 1.000 (0.000) | 1.000 (1.000) |
| Island | 10 | 14 | 8 | 0.571 (0.132) | NA | 8 | 0.571 (0.132) | 0.800 (0.293) |
| **CAPE FEAR REGION** |
| Cape Fear River Islands |  |  |  |  |  |  |
| 2002 | 32 | 47 | 26 | 0.553 (0.073) | 0.534 (0.073) | 7 | 0.149 (0.052) | 0.219 (0.074) |
| 2003 | 34 | 50 | 15 | 0.300 (0.065) | 0.367 (0.064) | 7 | 0.333 (0.103) | 0.206 (0.066) |
| Island | 66 | 97 | 41 | 0.423 (0.050) | 0.443 (0.049) | 14 | 0.206 (0.049) | 0.212 (0.049) |
| Lea and Hutaff Islands |  |  |  |  |  |  |
| 2003 | 16 | 16 | 11 | 0.688 (0.116) | 0.617 (0.133) | 9 | 0.391 (0.102) | 0.563 (0.204) |
| **Total/mean** | **1036** | **1581** | **456** | **0.288 (0.011)** | **0.246 (0.011)** | **320** | **0.360 (0.016)** | **0.309 (0.020)** |