Table. Values used to parameterize Common Murre population projection model.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Type of value and distribution | Value(s) | Source |
| Breeding population size | 3 values, number of breeding individuals, no variance | Labrador: 73354  62420 - Gannet Islands  7784 - Northern Labrador  3150 – Bird Islands  Northern  Newfoundland: 855048  825048 - Funk Island  30000 – Cabot Island  Southern  Newfoundland: 530000  500000 - Witless Bay  20000 - Cape St. Mary’s  10000 – Baccalieu Is. | Wilhelm unpublished, Wilhelm et al. 2015, McFarlane Tranquilla et al. 2013 |
| Annual harvest | Vector of 5 values  (2010-2014), random draws | 6993, 16401, 7829, 47119, 44213 | National Harvest Survey |
| Annual oiling | Vector of 4 values  (2010-2014), random draws | 2262, 3855, 3666, 931 | Robertson et al. 2014 |
| Proportion of juveniles in the harvest | Vector of 4 values  (2011-2014), random draws  NOTE: 2010 not used, only 14 samples | 0.481, 0.421, 0.574, 0.420 | National Harvest Survey |
| Relative vulnerability of three breeding populations to the harvest | 2 vectors, chosen randomly  Recovery rates (2001-2013)  Habitat use  (2007-2010) | Relative direct recovery rates  Labrador: 0.0396  Northern  Newfoundland: 0.0086  Southern  Newfoundland: 0.0071  Relative use of nearshore habitats  Labrador: 0.24  Northern  Newfoundland: 0.04  Southern  Newfoundland: 0.11 | Robertson et al., unpublished data  McFarlane Tranquilla et al. 2013 |
| Juvenile survival | Vector of 18 values (1981-2000), random draws | c(0.4,0.31,0.52,0.91,0.3,0.55,0.35,0.33,0.85,0.86,0.67,0.77,0.52,0.73,0.75,0.67,0.67,0.45,0.38) | Harris et al. 2007 |
| Adult survival | Mean ± se, beta  (1996-2003) | 0.95 ± 0.02 | Robertson et al. 2006 |
| Productivity | Mean ± se, normal  (1997-2014) | 0.634 ± 0.144 | Storey, unpublished |
| Breeding propensity | Age specific, no variance | Age 1-2: 0  3: 0.025  4: 0.367  5: 0.7  6: 0.985 | Wiese et al. 2004 |

Table. Values used to parameterize Thick-billed Murre population projection model.

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter | Type of value and distribution | Value(s) | Source |
| Breeding population size | 6 values, number of breeding individuals, no variance | Arctic Canada: 1,080,000  Atlantic Canada: 16,352  Hudson Bay: 2,000,000  NW Greenland: 625,026  SW Greeland: 27,448  Iceland: 660,000  Spitsbergen: 1,470,000 | Summarized in Frederiksen et al. (in prep) – Appendix D |
| Annual harvest - Canada | Vector of 5 values  (2010-2014), random draws | 45588, 49467, 44362, 66970, 63101 | National Harvest Survey |
| Annual harvest - Greenland | Vector of 6 values  (2006-2011), random draws | 89305, 84409, 64660, 62843, 64468, 66935 | Piniarneq 2014 |
| Annual oiling | Vector of 4 values  (2010-2014), random draws | 74719, 60131, 7695, 15124 | Robertson et al. 2014 |
| Proportion of juveniles in the harvest - Canada | Vector of 5 values  (2010-2014), random draws | 0.769, 0.618, 0.480, 0.665, 0.634 | National Harvest Survey |
| Proportion of juveniles in the harvest - Greenland | Mean and variance  Central West Greenland (1988-1989) | 0.60 ± 0.05  Assumes 2/3s of harvest in early period (Nov-Dec) when 0.7, and 1/3s during late period (Jan) when 0.4. SE simply 95% CL between 0.5 and 0.7. | Falk and Durink 1992 |
|  |  |  |  |
| Relative vulnerability of six breeding populations to harvest and oiling - Canada | Based on proportion of each breeding population in the Newfoundland Shelf region | Arctic Canada: 0.256  Atlantic Canada: 0.012  Hudson Bay: 0.397  NW Greenland: 0.273  SW Greenland: 0.003  Iceland: 0.000  Spitsbergen: 0.059 | Frederiksen et al. (in prep) – Appendix F |
| Relative vulnerability of six breeding populations to harvest and oiling - Greenland | Based on proportion of each breeding population in the South and Central West Greenland Shelf region | Arctic Canada: 0.109  Atlantic Canada: 0.000  Hudson Bay: 0.010  NW Greenland: 0.059  SW Greeland: 0.013  Iceland: 0.322  Spitsbergen: 0.486 | Frederiksen et al. (in prep) – Appendix F |
| Juvenile survival | Vector of 18 values (1981-2000), random draws | c(0.4,0.31,0.52,0.91,0.3,0.55,0.35,0.33,0.85,0.86,0.67,0.77,0.52,0.73,0.75,0.67,0.67,0.45,0.38) | Harris et al. 2007  COMU data |
| Adult survival | Mean ± se, beta  (1988-2007)  Coats Island | 0.95 ± 0.033 | Mean from Wiese et al. (2004) – survival with hunt and oiling removed.  SE from Smith and Gaston (2012) |
| Productivity | Mean ± se, normal  (1988-2007)  Coats Island | 0.69 ± 0.088 | Smith and Gaston (2012) |
| Breeding propensity | Age specific, no variance  Coats Island | Age 1-2: 0  3: 0.025  4: 0.367  5: 0.7  6: 0.985 | Wiese et al. 2004 |