Population sizes and apportionment of harvest

TBMU

Appendices C, D, and F of Frederiksen et al. in prep.

COMU

McFarlane Tranquilla et al. 2013 – FOR WB (500,000), Funk (825048) and Gannets (62420)

Use Table 3 to apportion the hunt into relative risk (2.75-6 times more risk to Gannet Island birds), based on nearshore use. Oiling risk the same.

Pool CSM, Baccalieu with Gull and Cabot with Funk. Rest of Labrador with Gannets.

South NL = 500000+10000 (Baccalieu)+20000 (CSM) = 530,000

North NL = 825048 + 30000 (cabot)

Lab = 62420 + 7784 (everything north of Gannet Islands) + 3150 (Bird Island) = 73354

Total = 1458402

Rail and Cotter 2015 – North Shore – 26337 breeding individuals – ignore those.

Harvest

Use harvest of TBMU spread sheet, probably 2010-2015, where we have species composition.

TBMU range(44362-66970), COMU (6993-47119)

Age of harvest

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Results 2011-2015 | |  |  |  |  |
|  | TBMU I | TBMU A | COMU I | COMU A | N |
| 2011 | 70 | 21 | 2 | 12 | 105 |
| 2012 | 97 | 60 | 25 | 27 | 209 |
| 2013 | 155 | 168 | 24 | 33 | 380 |
| 2014 | 133 | 67 | 81 | 60 | 341 |
| 2015 | 187 | 108 | 87 | 120 | 502 |
| Total | 322 | 249 | 51 | 72 | 694 |

Sex ratio of harvest:



1:1 McFarlane Tranquilla et al. 2010. Table 2.

Sex ratio of shot COMU?

Oiling

Age :

Robertson et al. 2006 and 2014, TBMU at expected.

R et al. 2014, COMU, more juvs (51.7% [15 of 29] adult), R et al. 2006 juvs (38% [6 of 16] adult).

Sex: even for TBMU, maybe male biased for COMU (12 of 14, R et al. 2006)

|  |  |
| --- | --- |
| Noiled TBMU | Noiled COMU |
| 74719 | 2262 |
| 60131 | 3855 |
| 7695 | 3666 |
| 15124 | 931 |

Vital rates

COMU: females: 0.969 6 0.014, 0.926–0.987; males: 0.927 6 0.020,0.876–0.957). All sampling variance.

Productivity

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2010 | 44 | 17 | 0.386 | Witless Bay | Gull Island | SE Gulch |
| 2011 | 32 | 21 | 0.656 | Witless Bay | Gull Island | SE Gulch |
| 2012 | 45 | 29 | 0.644 | Witless Bay | Gull Island | SE Gulch |
| 2013 | 25 | 17 | 0.680 | Witless Bay | Gull Island | SE Gulch |
| 2014 | 24 | 12 | 0.500 | Witless Bay | Gull Island | SE Gulch |

Juv survival: COMU Harris et al 2007 Ibis 56% (range 30–91%)

TBMU

Unimpacted survival: 0.953 and 0.544 – Wiese et al. 2004

Impacted survival: 0.90 ± 0.033 (Smith and Gaston 2012)

Productivity: This metric ranged from 54% to 89% (mean ± SD = 0.69 ± 0.088). Smith and Gaston 2012.