Appendix 1. Seasonal peak abundances of sea ducks estimated during aerial surveys (Lower Great Lakes Migrant Waterfowl Survey [LGLMWS], Mid-Winter Survey [MWS]; raw data with visual correction factors applied) or counted during ground-based surveys (Christmas Bird Count [CBC]; no visual correction factors applied) undertaken within the **Upper St. Lawrence River** Key Site between 1997 and 2018.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Survey** | **Season** | **Year** | **Total** | **LTDU** | **BUFF** | **COGO** | **HOME** | **COME** | **RBME** | **BLSC** | **SUSC** | **WWSC** |
| LGLMWS | Spring | 1999 | 11,526 | 0 | 1,467 | 5,715 | 328 | 3,653 | 325 | 0 | 0 | 38 |
|  |  | 2009 | 12,209 | 821 | 2,787 | 2,643 | 371 | 3,102 | 2,436 | 0 | 0 | 49 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Max: | 12,209 | 821 | 2,787 | 5,715 | 371 | 3,653 | 2,436 | 0 | 0 | 49 |
|  |  | Avg: | 11,867 | 410 | 2,127 | 4,179 | 350 | 3,377 | 1,380 | 0 | 0 | 44 |
|  |  | %: |  | 0.03 | 0.18 | 0.35 | 0.03 | 0.28 | 0.12 | 0.00 | 0.00 | 0.00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| LGLMWS | Fall | 1999 | 6,138 | 0 | 786 | 2,960 | 91 | 2,095 | 206 | 0 | 0 | 0 |
|  |  | 2009 | 9,052 | 793 | 985 | 4,760 | 87 | 1,734 | 693 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Max: | 9,052 | 793 | 985 | 4,760 | 91 | 2,095 | 693 | 0 | 0 | 0 |
|  |  | Avg: | 7,595 | 397 | 885 | 3,860 | 89 | 1,915 | 450 | 0 | 0 | 0 |
|  |  | %: |  | 0.05 | 0.12 | 0.51 | 0.01 | 0.25 | 0.06 | 0.00 | 0.00 | 0.00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| MWS | Winter | 2002 | 12,336 | 0 | 531 | 1,718 | 0 | 10,040 | 46 | 0 | 0 | 0 |
|  |  | 2003 | 14,338 | 86 | 597 | 3,109 | 0 | 8,273 | 2,274 | 0 | 0 | 0 |
|  |  | 2004 | 13,407 | 34 | 577 | 4,933 | 0 | 7,863 | 0 | 0 | 0 | 0 |
|  |  | 2005 | 10,679 | 0 | 306 | 2,541 | 0 | 7,831 | 0 | 0 | 0 | 0 |
|  |  | 2006 | 46,023 | 21 | 121 | 3,320 | 0 | 40,293 | 2,261 | 3 | 2 | 2 |
|  |  | 2007 | 3,540 | 0 | 691 | 1,437 | 122 | 1,237 | 53 | 0 | 0 | 0 |
|  |  | 2008 | 10,649 | 137 | 440 | 1,843 | 0 | 8,229 | 0 | 0 | 0 | 0 |
|  |  | 2009 | 8,069 | 0 | 231 | 595 | 0 | 4,976 | 2,266 | 0 | 0 | 0 |
|  |  | 2010 | 31,520 | 12,237 | 62 | 941 | 0 | 14,240 | 4,040 | 0 | 0 | 0 |
|  |  | 2011 | 6,673 | 0 | 95 | 738 | 0 | 3,308 | 2,533 | 0 | 0 | 0 |
|  |  | 2012 | 9,135 | 10 | 196 | 1,594 | 0 | 7,279 | 57 | 0 | 0 | 0 |
|  |  | 2013 | 9,973 | 0 | 883 | 1,723 | 0 | 7,366 | 0 | 0 | 0 | 0 |
|  |  | 2014 | 2,821 | 499 | 0 | 669 | 0 | 1,653 | 0 | 0 | 0 | 0 |
|  |  | 2015 | 2,499 | 451 | 7 | 230 | 50 | 1,756 | 4 | 0 | 0 | 0 |
|  |  | 2016 | 22,432 | 68 | 2,546 | 1,275 | 0 | 18,426 | 117 | 0 | 0 | 0 |
|  |  | 2017 | 9,536 | 2,196 | 538 | 2,269 | 0 | 4,265 | 248 | 0 | 0 | 21 |
|  |  | 2018 | 3,696 | 75 | 33 | 818 | 0 | 2,745 | 0 | 26 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Max: | 46,023 | 12,237 | 2,546 | 4,933 | 122 | 40,293 | 4,040 | 26 | 2 | 21 |
|  |  | Avg: | 12,784 | 930 | 462 | 1,750 | 10 | 8,811 | 818 | 2 | 0 | 1 |
|  |  | %: |  | 0.07 | 0.04 | 0.14 | 0.00 | 0.69 | 0.06 | 0.00 | 0.00 | 0.00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| CBC | Winter | 1997 | 2,820 | 23 | 84 | 696 | 3 | 1,969 | 10 | 4 | 0 | 31 |
|  |  | 1998 | 2,102 | 7 | 111 | 1,095 | 34 | 836 | 9 | 4 | 0 | 6 |
|  |  | 1999 | 6,333 | 16 | 363 | 2,442 | 38 | 3,311 | 78 | 4 | 6 | 75 |
|  |  | 2000 | 2,376 | 5 | 72 | 1,471 | 16 | 801 | 6 | 2 | 1 | 2 |
|  |  | 2001 | 2,982 | 1 | 581 | 1,100 | 121 | 1,051 | 103 | 7 | 2 | 16 |
|  |  | 2002 | 8,564 | 178 | 1,614 | 3,889 | 24 | 2,699 | 151 | 1 | 0 | 8 |
|  |  | 2003 | 5,127 | 110 | 228 | 2,169 | 8 | 2,041 | 561 | 2 | 0 | 8 |
|  |  | 2004 | 3,548 | 3 | 383 | 688 | 10 | 2,338 | 124 | 1 | 0 | 1 |
|  |  | 2005 | 8,834 | 8 | 381 | 2,067 | 23 | 6,128 | 217 | 2 | 0 | 8 |
|  |  | 2006 | 3,389 | 20 | 406 | 1,557 | 85 | 836 | 474 | 5 | 3 | 3 |
|  |  | 2007 | 1,843 | 0 | 13 | 613 | 2 | 1,202 | 13 | 0 | 0 | 0 |
|  |  | 2008 | 9,500 | 371 | 254 | 1,819 | 78 | 6,521 | 441 | 1 | 1 | 14 |
|  |  | 2009 | 10,607 | 1,522 | 213 | 2,735 | 37 | 4,176 | 1,902 | 5 | 2 | 15 |
|  |  | 2010 | 11,499 | 1,630 | 305 | 2,387 | 86 | 5,520 | 1,566 | 1 | 0 | 4 |
|  |  | 2011 | 11,189 | 636 | 392 | 1,812 | 128 | 4,641 | 3,554 | 2 | 15 | 9 |
|  |  | 2012 | 12,579 | 408 | 714 | 1,331 | 218 | 2,937 | 6,956 | 5 | 0 | 10 |
|  |  | 2013 | 3,330 | 124 | 190 | 1,163 | 23 | 852 | 967 | 2 | 0 | 9 |
|  |  | 2014 | 18,064 | 4,560 | 197 | 1,134 | 149 | 3,473 | 8,538 | 1 | 2 | 10 |
|  |  | 2015 | 3,985 | 636 | 157 | 1,013 | 248 | 505 | 1,416 | 0 | 0 | 10 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Max: | 18,064 | 4,560 | 1,614 | 3,889 | 248 | 6,521 | 8,538 | 7 | 15 | 75 |
|  |  | Avg: | 6,772 | 540 | 350 | 1,641 | 70 | 2,728 | 1,426 | 3 | 2 | 13 |
|  |  | %: |  | 0.08 | 0.05 | 0.24 | 0.01 | 0.40 | 0.21 | 0.00 | 0.00 | 0.00 |