



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Division of Migratory Bird Management  
Branch of Assessment and Decision Support  
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## MEMORANDUM

TO: Patrick Devers, Acting Chief, Branch of Assessment and Decision Support

FROM: Joshua Dooley, Goose Biologist, Branch of Assessment and Decision Support

DATE: 28 August 2026

SUBJECT: Atlantic Population Canada Goose Integrated Population Model 2027 Abundance Prediction

In fall 2020, the Atlantic Flyway Council adopted the use of an integrated population model (IPM) to inform harvest management decisions for Atlantic Population Canada geese (AP CAGO; Dooley 2019). The AP CAGO harvest strategy established regulatory thresholds relative to the IPM out-year prediction of breeding pairs (Table 1) and consideration of status and trends in productivity and total population size. The AP CAGO IPM predicted 2027 median number of breeding pairs was 177,000 (95% CI = 125,000–242,500; Figure 1, Table 3).

Input data included Ungava aerial survey counts during 1997–2026, banding age ratios and band-recovery data from summer 1997 through the 2025–2026 hunting season, and selected hunting regulations through the 2026–2027 hunting season (Table 2). The IPM predicted adult harvest probability for the 2026–27 hunting season was 0.061 (95% CI = 0.050–0.074; Figure 1, Table 3). The IPM predicted August 2026 juvenile:adult age ratio was 1.43 (95% CI = 1.16–1.71), which was greater than the observed 1997–2025 average (1.24). Average temperature during May 2026 at Kuujuaq, Québec was 2.9°C ( $\bar{x}_{1997-2025} = 1.6^{\circ}\text{C}$ ), and the proportion of snow/ice cover on the Ungava Peninsula on 15 June 2026 was 0.16 ( $\bar{x}_{1997-2025} = 0.38$ ). In 2025, the out-year (2026) median breeding pair prediction from the IPM was 163,500 (95% CI = 113,000–227,500), which was -4% less than the observed 2026 aerial survey breeding pair estimate of  $170,107 \pm 18,795$  (SE; Lefebvre et al. 2026).

## LITERATURE CITED

- Dooley, J. L. 2019. Atlantic Population Canada Goose Integrated Population Model. Unpubl. Report to Atlantic Flyway Technical Section. U. S. Fish and Wildlife Service, Laurel, MD. November 2019.
- Lefebvre, J., F. St-Pierre, and R. Spangler. 2026. A breeding pair survey of Canada Geese in Nunavik - 2026. Canadian Wildlife Service, Québec Region. Report to the Atlantic Flyway Technical Section. July 2026.

**Table 1. Current Atlantic Population Canada goose harvest strategy showing population abundance thresholds and hunting regulations.**

| Abundance threshold<br>(IPM breeding pair prediction) | Package           | Regulations<br>(Days/Bag)                                                                            |
|-------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------|
| >160K                                                 | Liberal           | Chesapeake (45/2), New England/Mid-Atlantic (45/3),<br>NC (30/2), Canada (full season length/5)      |
| Between 125–160K                                      | Moderate          | Chesapeake (30/2), New England/Mid-Atlantic (30/3),<br>NC (30/1), Canada (25% decrease from liberal) |
| Between 60–125K                                       | Restrictive       | All U.S. AP harvest zones (30/1), Canada (50%<br>decrease from liberal)                              |
| <60K and negative trend                               | Potential Closure | All areas (0/0)                                                                                      |

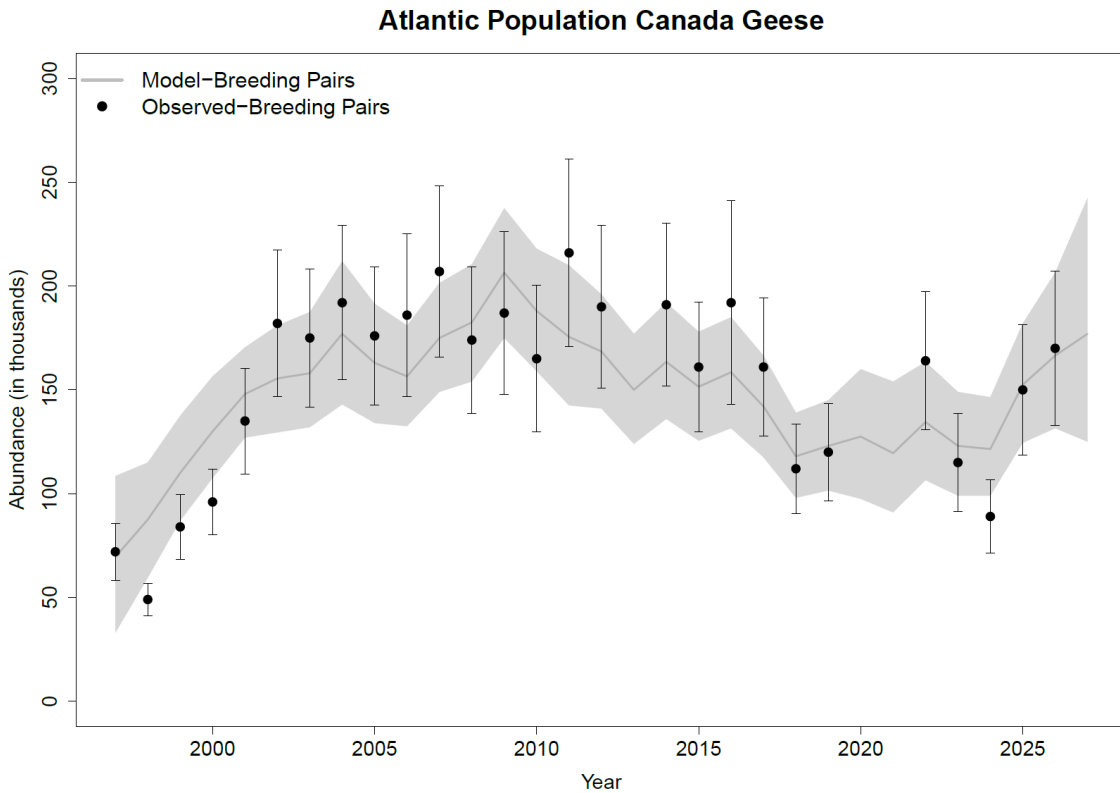
**Table 2. Input data included in the Atlantic Population Canada goose integrated population model and summarized band-recovery data, 1997–2026.**

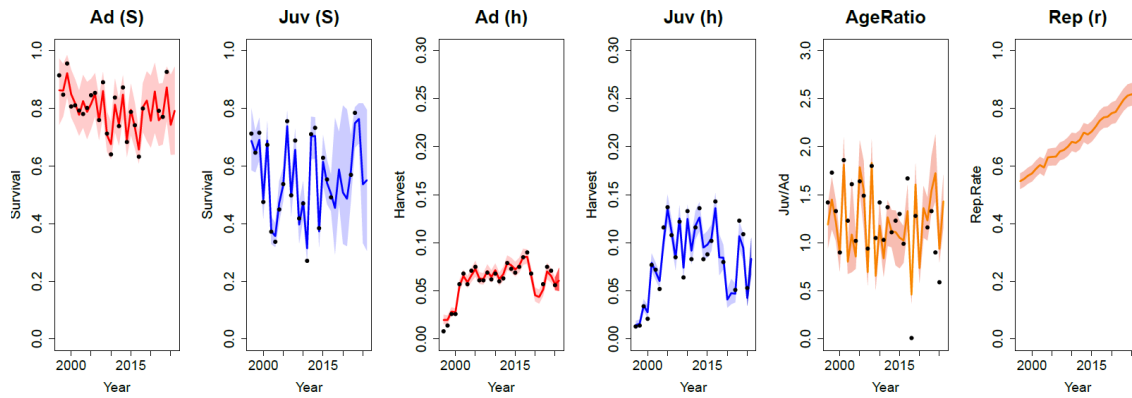
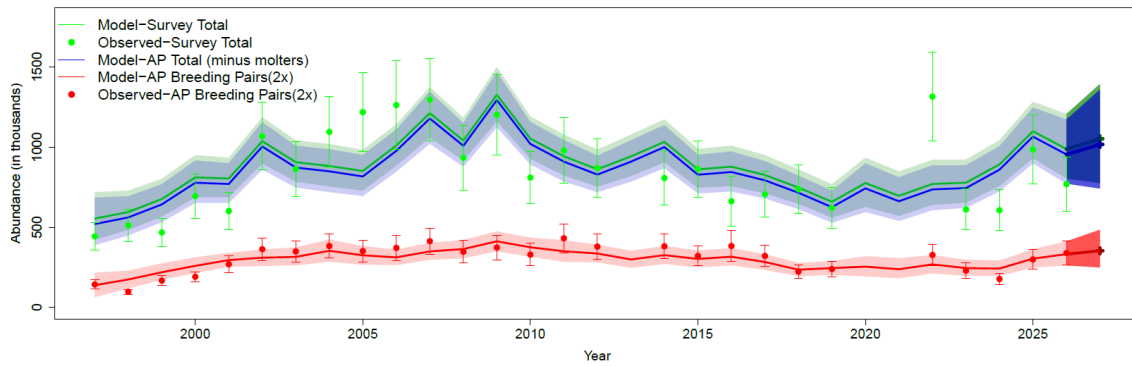
| Year | Survey abundance<br>(in thousands) |    |       |     | Banding<br>age ratio | Env. Covariate | Harvest Regulations (days, bag) |    |           |    |        |    |       |     |     |
|------|------------------------------------|----|-------|-----|----------------------|----------------|---------------------------------|----|-----------|----|--------|----|-------|-----|-----|
|      | Breeding Pairs                     |    | Total |     |                      |                | Ches.                           |    | MidAtl/NE |    | Canada |    | Total |     |     |
|      | Est                                | SE | Est   | SE  |                      |                | d                               | b  | d         | b  | d      | b  | d     | b   |     |
| 1997 | 72                                 | 7  | 444   | 44  | 1.42                 | 1.5            | 0.25                            | 0  | 0         | 0  | 0      | 0  | 0     | 0   | 0   |
| 1998 | 49                                 | 4  | 513   | 51  | 1.73                 | 2.9            | 0.09                            | 0  | 0         | 0  | 0      | 0  | 0     | 0   | 0   |
| 1999 | 84                                 | 8  | 468   | 45  | 1.33                 | 2.8            | 0.61                            | 6  | 1         | 15 | 1      | 20 | 3     | 41  | 5   |
| 2000 | 96                                 | 8  | 695   | 71  | 0.90                 | 0.8            | 0.83                            | 6  | 1         | 15 | 1      | 20 | 3     | 41  | 5   |
| 2001 | 135                                | 13 | 602   | 60  | 1.86                 | 4.8            | 0.07                            | 30 | 1         | 30 | 2      | 30 | 5     | 90  | 8   |
| 2002 | 182                                | 18 | 1,069 | 108 | 1.23                 | -1.1           | 0.65                            | 45 | 1         | 45 | 2      | 45 | 5     | 135 | 8   |
| 2003 | 175                                | 17 | 864   | 87  | 1.61                 | 4.7            | 0.18                            | 45 | 1         | 45 | 2      | 45 | 5     | 135 | 8   |
| 2004 | 192                                | 19 | 1,096 | 112 | 1.02                 | -0.6           | 0.76                            | 45 | 1.5       | 45 | 3      | 45 | 5     | 135 | 9.5 |
| 2005 | 176                                | 17 | 1,219 | 126 | 1.64                 | 4.7            | 0.08                            | 45 | 2         | 45 | 3      | 45 | 5     | 135 | 10  |
| 2006 | 186                                | 20 | 1,263 | 141 | 1.49                 | 5.3            | 0.26                            | 45 | 2         | 45 | 3      | 45 | 5     | 135 | 10  |
| 2007 | 207                                | 21 | 1,297 | 132 | 0.94                 | -1.7           | 0.84                            | 45 | 2         | 45 | 3      | 45 | 5     | 135 | 10  |
| 2008 | 174                                | 18 | 934   | 104 | 1.80                 | 5.5            | 0.09                            | 45 | 2         | 45 | 3      | 45 | 5     | 135 | 10  |
| 2009 | 187                                | 20 | 1,203 | 128 | 1.05                 | -1.9           | 0.90                            | 45 | 2         | 45 | 3      | 45 | 5     | 135 | 10  |
| 2010 | 165                                | 18 | 811   | 82  | 1.42                 | 1.2            | 0.28                            | 45 | 2         | 45 | 3      | 60 | 5     | 150 | 10  |
| 2011 | 216                                | 23 | 980   | 104 | 1.03                 | -1.0           | 0.46                            | 45 | 2         | 45 | 3      | 60 | 5     | 150 | 10  |
| 2012 | 190                                | 20 | 871   | 93  | 1.37                 | 1.9            | 0.10                            | 50 | 2         | 50 | 3      | 60 | 5     | 160 | 10  |
| 2013 | —                                  | —  | —     | —   | 1.11                 | 0.8            | 0.28                            | 50 | 2         | 50 | 3      | 60 | 5     | 160 | 10  |
| 2014 | 191                                | 20 | 808   | 87  | 1.23                 | 1.7            | 0.13                            | 50 | 2         | 50 | 3      | 60 | 5     | 160 | 10  |
| 2015 | 161                                | 16 | 864   | 89  | 1.30                 | 1.5            | 0.34                            | 50 | 2         | 50 | 3      | 60 | 5     | 160 | 10  |
| 2016 | 192                                | 25 | 663   | 80  | 0.99                 | 0.9            | 0.45                            | 50 | 2         | 50 | 3      | 60 | 5     | 160 | 10  |
| 2017 | 161                                | 17 | 706   | 73  | 1.67                 | 2.1            | 0.18                            | 50 | 2         | 50 | 3      | 60 | 5     | 160 | 10  |
| 2018 | 112                                | 11 | 739   | 77  | 0.01                 | -5.1           | 0.99                            | 50 | 2         | 50 | 3      | 60 | 5     | 160 | 10  |
| 2019 | 120                                | 12 | 622   | 64  | 1.28                 | 4.3            | 0.18                            | 30 | 1         | 30 | 2      | 60 | 5     | 120 | 8   |
| 2020 | —                                  | —  | —     | —   | —                    | -0.8           | 0.94                            | 30 | 1         | 30 | 2      | 30 | 3     | 90  | 6   |
| 2021 | —                                  | —  | —     | —   | —                    | 3.4            | 0.42                            | 30 | 1         | 30 | 1      | 30 | 3     | 90  | 5   |
| 2022 | 164                                | 17 | 1,316 | 142 | 1.16                 | 1.3            | 0.12                            | 30 | 1         | 30 | 1      | 30 | 3     | 90  | 5   |
| 2023 | 115                                | 12 | 612   | 65  | 1.33                 | 2.4            | 0.11                            | 45 | 2         | 45 | 3      | 30 | 3     | 120 | 8   |
| 2024 | 89                                 | 9  | 607   | 65  | 0.90                 | 3.7            | 0.29                            | 30 | 2         | 30 | 3      | 30 | 3     | 90  | 8   |
| 2025 | 150                                | 16 | 986   | 110 | 0.59                 | -0.5           | 0.44                            | 30 | 1         | 30 | 1      | 30 | 3     | 90  | 5   |
| 2026 | 170                                | 19 | 770   | 86  | —                    | 2.9            | 0.16                            | 45 | 2         | 45 | 3      | 30 | 3     | 120 | 8   |

[illegible]

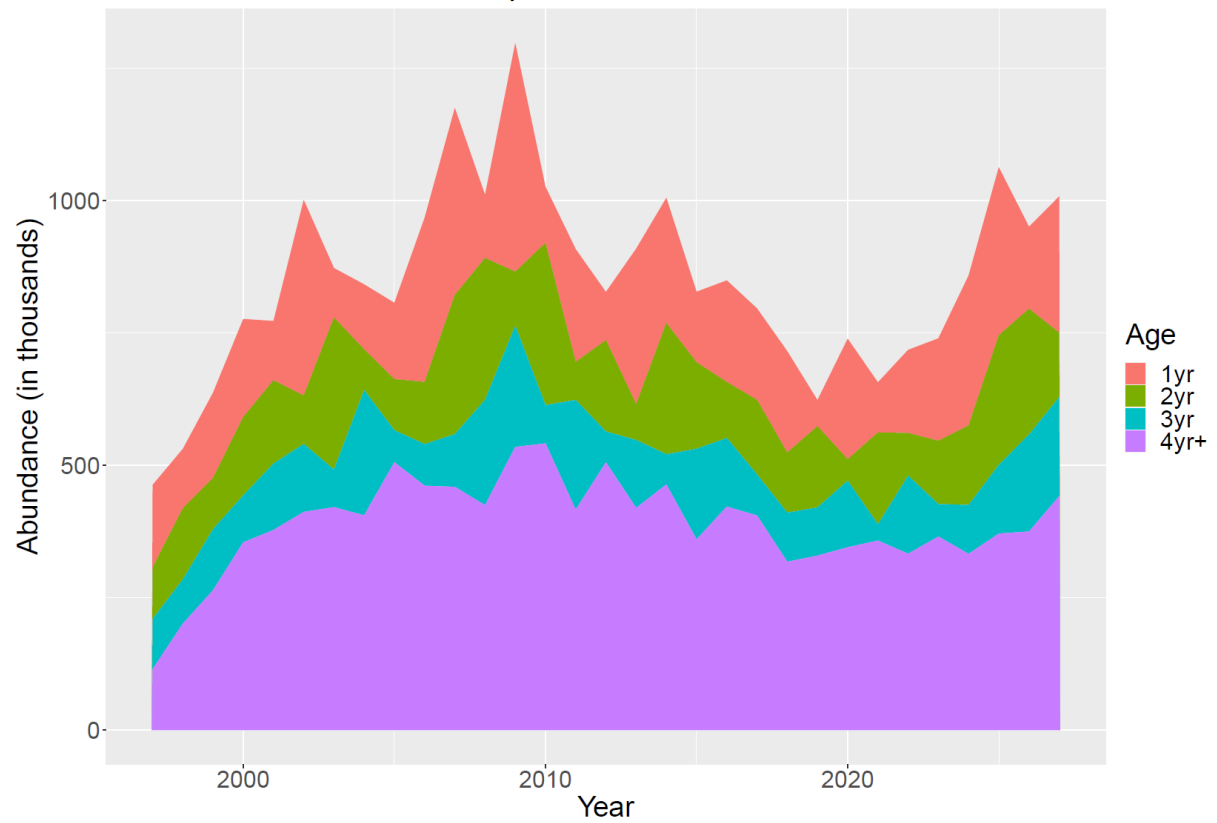
|      |      |    |    |    |    |     |     |     |     |     |     |     |     |    |     |     |     |     |    |     |    |    |    |    |    |   |    |    |   |   |
|------|------|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|----|----|----|----|----|---|----|----|---|---|
| 1997 | 1676 | 12 | 12 | 16 | 7  | 22  | 30  | 17  | 12  | 18  | 13  | 10  | 8   | 4  | 10  | 3   | 2   | 3   | 1  | 3   | 1  | 1  | 0  | 1  | 0  | 0 | 0  | 0  | 0 | 0 |
| 1998 | 3502 | 0  | 28 | 41 | 28 | 46  | 44  | 37  | 35  | 32  | 29  | 26  | 16  | 12 | 18  | 12  | 9   | 11  | 6  | 3   | 5  | 0  | 1  | 0  | 0  | 0 | 1  | 0  | 1 | 0 |
| 1999 | 4303 | 0  | 0  | 84 | 54 | 82  | 71  | 46  | 65  | 47  | 25  | 30  | 28  | 19 | 12  | 9   | 14  | 9   | 11 | 1   | 2  | 6  | 3  | 3  | 0  | 0 | 0  | 0  | 2 | 0 |
| 2000 | 2214 | 0  | 0  | 0  | 27 | 39  | 31  | 16  | 19  | 21  | 18  | 12  | 10  | 7  | 8   | 5   | 2   | 4   | 5  | 6   | 2  | 2  | 0  | 1  | 1  | 0 | 0  | 0  | 0 | 0 |
| 2001 | 5389 | 0  | 0  | 0  | 0  | 244 | 166 | 84  | 79  | 82  | 45  | 49  | 38  | 39 | 35  | 23  | 20  | 19  | 14 | 14  | 12 | 11 | 3  | 3  | 2  | 0 | 0  | 0  | 1 | 0 |
| 2002 | 4007 | 0  | 0  | 0  | 0  | 0   | 0   | 172 | 63  | 54  | 36  | 27  | 15  | 26 | 21  | 18  | 8   | 8   | 7  | 3   | 3  | 4  | 8  | 2  | 1  | 0 | 0  | 2  | 0 | 0 |
| 2003 | 6143 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 193 | 105 | 68  | 50  | 44  | 33 | 34  | 24  | 13  | 13  | 17 | 13  | 12 | 8  | 5  | 6  | 3  | 0 | 1  | 0  | 1 | 1 |
| 2004 | 2428 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 175 | 59  | 28  | 30  | 26  | 20 | 15  | 8   | 9   | 6   | 7  | 5   | 9  | 5  | 5  | 4  | 2  | 1 | 0  | 0  | 0 | 0 |
| 2005 | 3909 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 338 | 103 | 73  | 54  | 37 | 42  | 26  | 22  | 15  | 11 | 8   | 7  | 13 | 6  | 6  | 1  | 1 | 0  | 1  | 0 | 0 |
| 2006 | 4673 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 324 | 197 | 111 | 82 | 72  | 42  | 39  | 29  | 18 | 22  | 12 | 14 | 12 | 18 | 2  | 1 | 2  | 2  | 0 | 3 |
| 2007 | 2131 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 118 | 66  | 33  | 23 | 13  | 10  | 13  | 11  | 8  | 8   | 13 | 6  | 5  | 0  | 2  | 0 | 1  | 1  | 0 | 0 |
| 2008 | 4289 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 346 | 182 | 80  | 44  | 37 | 39  | 36 | 18 | 18 | 12 | 8  | 8 | 4  | 4  | 2 | 0 |
| 2009 | 1539 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 66  | 32  | 21  | 11  | 15 | 15  | 5  | 4  | 5  | 1  | 3  | 3 | 1  | 3  | 0 | 1 |
| 2010 | 2774 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 251 | 82  | 46  | 46  | 30 | 14  | 17 | 13 | 9  | 3  | 2  | 1 | 7  | 5  | 1 |   |
| 2011 | 1116 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 64  | 20  | 12  | 7   | 4  | 4   | 1  | 1  | 1  | 1  | 1  | 1 | 1  | 0  | 0 | 0 |
| 2012 | 2134 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 173 | 97  | 61  | 42 | 26  | 38 | 26 | 17 | 5  | 5  | 9 | 9  | 6  | 3 | 0 |
| 2013 | 2052 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 198 | 102 | 42 | 44  | 35 | 18 | 15 | 8  | 4  | 3 | 15 | 2  | 6 | 0 |
| 2014 | 2345 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 0   | 140 | 61 | 39  | 30 | 24 | 15 | 4  | 3  | 8 | 2  | 3  | 0 | 0 |
| 2015 | 1851 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 119 | 82 | 52 | 43 | 11 | 8  | 6 | 10 | 16 | 5 | 3 |
| 2016 | 2074 | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0  | 156 | 76 | 55 | 23 | 23 | 10 |   |    |    |   |   |

**Figure 1 and Table 3. Atlantic Population Canada goose integrated population model posterior estimates (median/95% credible limits [line/shading]) of breeding pairs (top plot), total and breeding abundance indices (with 2027 out-year prediction in darker shading), other model parameters (middle plot; ad=adult; juv=juvenile; S=survival; h=harvest probability; AgeRatio=juvenile:adult at banding; r=reporting probability), and abundance indices by age class (bottom plot). Observed data (abundance, age ratios) and estimates of survival and harvest probabilities from other band-recovery analyses (i.e., fitting a global model in Program MARK) were included as points.**





### Atlantic Population Canada Geese



| Year | Abundance      |                   |                     |                   |           |                       | Survival |               |          |               | Harvest |               |          |               | Juv:Adult |             |
|------|----------------|-------------------|---------------------|-------------------|-----------|-----------------------|----------|---------------|----------|---------------|---------|---------------|----------|---------------|-----------|-------------|
|      | Breeding Pairs |                   | Breeding Pairs (2X) |                   | Total     |                       | Adult    |               | Juvenile |               | Adult   |               | Juvenile |               | Age Ratio |             |
|      | median         | 95% CI            | median              | 95% CI            | median    | 95% CI                | median   | 95% CI        | median   | 95% CI        | median  | 95% CI        | median   | 95% CI        | median    | 95% CI      |
| 1997 | 69,500         | (33,000-108,500)  | 139,000             | (66,000-217,000)  | 555,000   | (424,000-720,000)     | 0.862    | (0.743-0.972) | 0.687    | (0.585-0.799) | 0.020   | (0.015-0.025) | 0.014    | (0.011-0.019) | 1.19      | (0.94-1.40) |
| 1998 | 87,500         | (59,488-115,000)  | 175,000             | (118,975-230,000) | 596,000   | (485,000-729,000)     | 0.861    | (0.772-0.953) | 0.645    | (0.578-0.719) | 0.020   | (0.016-0.024) | 0.016    | (0.012-0.020) | 1.45      | (1.14-1.68) |
| 1999 | 110,000        | (87,000-137,500)  | 220,000             | (174,000-275,000) | 677,000   | (568,000-803,000)     | 0.922    | (0.840-0.984) | 0.691    | (0.620-0.766) | 0.029   | (0.025-0.033) | 0.035    | (0.029-0.041) | 1.22      | (1.02-1.44) |
| 2000 | 130,000        | (107,500-156,500) | 260,000             | (215,000-313,000) | 812,000   | (689,000-951,000)     | 0.849    | (0.769-0.933) | 0.484    | (0.417-0.558) | 0.028   | (0.024-0.032) | 0.028    | (0.022-0.035) | 0.90      | (0.70-1.05) |
| 2001 | 148,000        | (127,000-170,500) | 296,000             | (254,000-341,000) | 805,000   | (689,000-934,000)     | 0.817    | (0.739-0.900) | 0.688    | (0.626-0.754) | 0.055   | (0.050-0.061) | 0.079    | (0.070-0.089) | 1.81      | (1.55-2.10) |
| 2002 | 155,500        | (129,500-181,000) | 311,000             | (259,000-362,000) | 1,038,000 | (899,000-1,187,000)   | 0.777    | (0.705-0.861) | 0.373    | (0.330-0.425) | 0.065   | (0.060-0.072) | 0.070    | (0.061-0.079) | 0.80      | (0.68-0.97) |
| 2003 | 158,000        | (132,000-187,500) | 316,000             | (264,000-375,000) | 907,000   | (786,000-1,042,000)   | 0.825    | (0.733-0.915) | 0.357    | (0.319-0.401) | 0.059   | (0.053-0.065) | 0.060    | (0.053-0.069) | 1.09      | (0.69-1.67) |
| 2004 | 177,000        | (143,000-212,000) | 354,000             | (286,000-424,000) | 883,000   | (756,000-1,020,000)   | 0.787    | (0.693-0.891) | 0.471    | (0.406-0.548) | 0.066   | (0.059-0.073) | 0.101    | (0.089-0.115) | 0.86      | (0.73-1.09) |
| 2005 | 163,000        | (134,000-191,500) | 326,000             | (268,000-383,000) | 852,000   | (730,000-984,000)     | 0.815    | (0.729-0.901) | 0.534    | (0.478-0.594) | 0.073   | (0.065-0.081) | 0.135    | (0.122-0.150) | 1.79      | (1.53-2.06) |
| 2006 | 156,500        | (132,500-181,000) | 313,000             | (265,000-362,000) | 1,011,000 | (886,000-1,143,000)   | 0.850    | (0.772-0.922) | 0.738    | (0.675-0.790) | 0.063   | (0.057-0.069) | 0.112    | (0.100-0.124) | 1.55      | (1.15-1.85) |
| 2007 | 175,000        | (149,000-201,500) | 350,000             | (298,000-403,000) | 1,213,000 | (1,062,000-1,375,000) | 0.757    | (0.690-0.838) | 0.494    | (0.427-0.569) | 0.062   | (0.057-0.068) | 0.084    | (0.072-0.097) | 0.69      | (0.56-0.82) |
| 2008 | 182,500        | (154,000-210,500) | 365,000             | (308,000-421,000) | 1,042,000 | (918,000-1,184,000)   | 0.860    | (0.771-0.925) | 0.656    | (0.585-0.728) | 0.071   | (0.064-0.078) | 0.125    | (0.113-0.139) | 1.83      | (1.45-2.07) |
| 2009 | 206,500        | (175,000-237,500) | 413,000             | (350,000-475,000) | 1,328,000 | (1,163,000-1,501,000) | 0.707    | (0.650-0.788) | 0.396    | (0.332-0.473) | 0.065   | (0.059-0.072) | 0.074    | (0.062-0.088) | 0.66      | (0.51-0.77) |
| 2010 | 188,000        | (159,000-218,000) | 376,000             | (318,000-436,000) | 1,054,000 | (929,000-1,192,000)   | 0.675    | (0.623-0.752) | 0.476    | (0.414-0.546) | 0.072   | (0.065-0.078) | 0.125    | (0.112-0.139) | 1.18      | (1.02-1.43) |
| 2011 | 175,500        | (142,500-210,000) | 351,000             | (285,000-420,000) | 944,000   | (825,000-1,079,000)   | 0.813    | (0.718-0.902) | 0.314    | (0.268-0.368) | 0.062   | (0.056-0.069) | 0.092    | (0.078-0.107) | 0.84      | (0.65-0.97) |
| 2012 | 168,500        | (141,000-196,000) | 337,000             | (282,000-392,000) | 863,000   | (755,000-985,000)     | 0.743    | (0.671-0.829) | 0.702    | (0.625-0.771) | 0.067   | (0.061-0.075) | 0.118    | (0.104-0.133) | 1.27      | (0.97-1.44) |
| 2013 | 150,000        | (124,000-177,000) | 300,000             | (248,000-354,000) | 943,000   | (820,000-1,079,000)   | 0.848    | (0.766-0.914) | 0.704    | (0.623-0.769) | 0.079   | (0.072-0.087) | 0.126    | (0.112-0.142) | 1.12      | (0.95-1.34) |
| 2014 | 163,500        | (136,000-192,000) | 327,000             | (272,000-384,000) | 1,034,000 | (907,000-1,174,000)   | 0.689    | (0.632-0.771) | 0.373    | (0.319-0.436) | 0.077   | (0.070-0.084) | 0.095    | (0.083-0.108) | 1.11      | (0.77-1.34) |
| 2015 | 151,500        | (125,500-178,000) | 303,000             | (251,000-356,000) | 862,000   | (748,000-990,000)     | 0.795    | (0.707-0.884) | 0.614    | (0.532-0.706) | 0.072   | (0.065-0.080) | 0.098    | (0.085-0.112) | 1.05      | (0.74-1.23) |
| 2016 | 158,500        | (131,500-185,000) | 317,000             | (263,000-370,000) | 879,000   | (758,000-1,010,000)   | 0.733    | (0.661-0.818) | 0.541    | (0.468-0.620) | 0.076   | (0.069-0.084) | 0.104    | (0.092-0.119) | 1.02      | (0.79-1.17) |
| 2017 | 142,000        | (117,500-166,500) | 284,000             | (235,000-333,000) | 827,000   | (713,000-951,000)     | 0.656    | (0.609-0.722) | 0.503    | (0.443-0.569) | 0.085   | (0.077-0.094) | 0.136    | (0.122-0.152) | 1.33      | (1.15-1.60) |
| 2018 | 118,000        | (98,000-139,000)  | 236,000             | (196,000-278,000) | 749,000   | (648,000-862,000)     | 0.803    | (0.718-0.886) | 0.454    | (0.294-0.766) | 0.086   | (0.078-0.093) | 0.085    | (0.066-0.108) | 0.46      | (0.37-0.56) |
| 2019 | 123,000        | (101,500-145,000) | 246,000             | (203,000-290,000) | 660,000   | (561,000-769,000)     | 0.827    | (0.687-0.928) | 0.588    | (0.473-0.717) | 0.066   | (0.059-0.074) | 0.085    | (0.073-0.098) | 1.61      | (1.26-1.82) |
| 2020 | 127,500        | (97,500-160,000)  | 255,000             | (195,000-320,000) | 777,000   | (629,000-935,000)     | 0.756    | (0.664-0.913) | 0.507    | (0.330-0.809) | 0.045   | (0.039-0.054) | 0.041    | (0.033-0.052) | 0.74      | (0.59-0.88) |
| 2021 | 119,500        | (90,988-154,000)  | 239,000             | (181,975-308,000) | 697,000   | (572,000-849,000)     | 0.858    | (0.716-0.957) | 0.486    | (0.322-0.795) | 0.044   | (0.037-0.051) | 0.048    | (0.036-0.063) | 1.36      | (1.05-1.59) |
| 2022 | 134,500        | (106,500-163,500) | 269,000             | (213,000-327,000) | 771,000   | (641,000-922,000)     | 0.758    | (0.669-0.885) | 0.584    | (0.483-0.705) | 0.051   | (0.045-0.059) | 0.047    | (0.038-0.057) | 1.23      | (1.02-1.47) |
| 2023 | 123,000        | (99,000-149,000)  | 246,000             | (198,000-298,000) | 779,000   | (655,000-923,000)     | 0.776    | (0.674-0.887) | 0.748    | (0.663-0.804) | 0.070   | (0.062-0.079) | 0.107    | (0.094-0.122) | 1.54      | (1.31-1.90) |
| 2024 | 121,500        | (99,000-146,500)  | 243,000             | (198,000-293,000) | 893,000   | (759,000-1,044,000)   | 0.872    | (0.758-0.944) | 0.763    | (0.678-0.817) | 0.066   | (0.059-0.073) | 0.095    | (0.082-0.110) | 1.73      | (1.44-2.13) |
| 2025 | 152,500        | (124,500-182,000) | 305,000             | (249,000-364,000) | 1,100,000 | (932,000-1,284,000)   | 0.742    | (0.639-0.916) | 0.536    | (0.333-0.817) | 0.057   | (0.051-0.064) | 0.043    | (0.035-0.052) | 0.94      | (0.80-1.17) |
| 2026 | 166,500        | (131,500-206,500) | 333,000             | (263,000-413,000) | 989,000   | (806,000-1,208,000)   | 0.791    | (0.639-0.944) | 0.550    | (0.306-0.794) | 0.061   | (0.050-0.074) | 0.083    | (0.067-0.105) | 1.43      | (1.16-1.71) |
| 2027 | 177,000        | (125,000-242,500) | 354,000             | (250,000-485,000) | 1,052,000 | (776,000-1,395,000)   |          |               |          |               |         |               |          |               |           |             |