***Supplementary Material***

**Scientific contributions and lessons learned from 30 years of**

**ecological monitoring of the Bylot Island tundra ecosystem**

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**Definition of publication categories**

We defined 7 categories to classify publications from the Bylot Island research program.

Fundamental research (FR): A publications addressing a fundamental question and based entirely (or primarily) from data collected on Bylot Island.

Ex: Beardsell, A., D. Gravel, J. Clermont, D. Berteaux, G. Gauthier & J. Bêty. 2022. A mechanistic model of functional response provides new insights into indirect interactions among arctic tundra prey. *Ecology* 103, e3734.

Applied research (AR): A publication addressing a question with direct relevance to management or conservation issues and based entirely (or primarily) from data collected on Bylot Island.

Ex: LeTourneux, F., G. Gauthier, R. Pradel, J. Lefebvre & P. Legagneux. 2022. Evidence for synergistic cumulative impacts of marking and hunting in a wildlife species. *Journal of Applied Ecology* 59, 2705-2715.

Methodological research (MR): A publication developing or validating a new methodology and based entirely (or primarily) from data collected on Bylot Island.

Ex: Bolduc, D., D. Fauteux, É. Bharucha, J.-M. Trudeau & P. Legagneux. 2022. Ultra-light photosensor collars to monitor Arctic lemming activity. *Animal Biotelemetry* 10, 31.

Monitoring (MO): A publication where monitoring per se was the primary objective of the paper.

Ex: Gauthier, G., J. Bêty, M.-C. Cadieux, P. Legagneux, M. Doiron, C. Chevallier, S. Lai, A. Tarroux & D. Berteaux. 2013. Long-term monitoring at multiple trophic levels suggests heterogeneity in responses to climate change in the Canadian Arctic tundra.*Philosophical Transaction of the Royal Society – B* 368, 20120482.

Contribution to international (or national) project (CIP): An international (sometimes national) study (led by us or not) addressing primarily a fundamental question and where data from Bylot Island were used along with data from several other sites across the Arctic.

Ex: Lamarre, J.F. et al. 2021. Timing of breeding site availability across the North-American Arctic partly determines spring migration schedule in a long-distance Neotropical migrant. *Frontiers in Ecology and Evolution* 9, 710007.

Contribution to international assessment (CIA): An international review or synthesis relevant to a conservation issue where data (or in some case expertise) from Bylot Island were along with data from several other sites across the Arctic.

Ex: Ehrich, D., N.M. Schmidt, G. Gauthier, et al. 2020. Documenting lemming population change in the Arctic: Can we detect trends? *Ambio* 49, 786-800

Other (OT): Publications that do not fit any of the other categories.

**Bibliometric mapping analysis**

We applied bibliometric mapping techniques based on the co-occurrence of specific terms in our publications to illustrate the dominant themes in ecological research conducted on Bylot Island. We used the software VOSviewer to generate bibliometric maps based on these terms, which were used as a surrogate of keywords (van Eck and Waltman 2010; VOS stands for *visualisation of similarities*). The software automatically generates a list of terms from the titles and abstract of our journal articles based on noun phrases identified with a sentence detection algorithm (see van Eck and Waltman, 2023). The original list included more than 1500 terms. We first reduced this list by producing a thesaurus that allowed the combination of terms with equivalent or similar meaning (e.g. the common and scientific names of the same species). We then eliminated terms with a meaning too general (e.g. ecology) or that were recorded in a singe publication. The final list used to generate bibliometric maps included 267 terms that appeared between 2 and 122 times in our publications (repetition of the same term in a publication counted for a single occurrence).

The software uses this list of terms to construct a graphical map based on their co-occurrence in our publications. In the first step, a similarity matrix measuring the strength of association between terms is calculated based on a matrix of co-occurrence of terms corrected for differences in the total number of occurrences or co-occurrences. A network map is then generated by the software based on the similarity matrix where each circle represents a term and each line represents links between two terms (i.e. their co-occurrence in a publication). On this map, the size of a circle is proportional to the number of occurrences of the term and the width of a line is proportional to the number of co-occurrences between two terms. The network is also optimized to make the distance between each pair of items reflects as much as possible their association, which is calculated as being proportional to the ratio between their number of co-occurrences and the product of the total numbers of occurrences of each of these two items. Terms are assigned to clusters based on the strength of association with each other. Terms grouped into a cluster generally have more links with each other than with terms from other groups, and a term can belong to a single cluster. The number of clusters generated for a given network can be adjusted with a resolution parameter. We chose a resolution of 0.70, which retained 3 clusters in our analysis (see van Eck & Waltman 2010, 2023 for more details on the algorithm).

We also used the overlay visualisation as an alternative graphic representation. It is identical to the network visualisation except that items are coloured differently. For the colour scale, we chose the average publication year of articles where each term appeared. This representation allows a visualization of the time when terms occurred most frequently in our articles. It should be noted that the publication year scale can be stretched at maximum from 2005 to 2020 in VOSviewer. This means that terms with an average publication year before 2005 are displayed with the 2005 colour and terms with an average publication year after 2020 are displayed with the 2020 colour.

**Source of information to evaluate the scientific impact of publications**

We evaluated the scientific impact of our long-term ecological studies using citation metrics. We extracted citations of our journal articles from the Web of Science (<https://clarivate.com/webofsciencegroup/solutions/web-of-science>). Although the Web of Science typically yields fewer citations than other search engines like Google Scholars, it is more stable and amenable to citation analysis (Sugimoto and Larivière, 2018). We also evaluated the influence of our work on government policies and legislations by examining citations of our work in policy documents in the Overton database (<https://www.overton.io/>).

**References**

van Eck, N.J. and Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523-538. doi: 10.1007/s11192-009-0146-3

van Eck, N.J. and Waltman, L. (2023). VOSviewer Manual. Available at: <https://www.vosviewer.com/documentation/Manual_VOSviewer_1.6.19.pdf>

Sugimoto, C.R., and Larivière, V. (2018). *Measuring Research. What Everyone Needs to Know.* New York: Oxford University Press.

 

**FIGURE S1 |** Bibliometric map illustrating the co-occurrence of terms in journal articles of the Bylot Island ecological studies. Circles size is proportional to the number of occurrences of a term and lines link terms with co-occurrences in publications (see methods in Supplementary material). Colours illustrate when terms occurred most frequently in articles based on publication year.

**TABLE S1 |** Impact of peer-reviewed journal articles of the Bylot Island monitoring program based on the number of citations recorded in the scientific literature (Source: Web of Science). Articles are ranked in decreasing order based on the Percentile (those with the highest value have the highest relative citation rate).

| No | Reference | N Citations1 | Citation impact2 | Percentile3 |
| --- | --- | --- | --- | --- |
| 1 | Berner, L.T., R. Massey, P. Jantz, B. Forbes, M. Macias-Fauria, I. Myers-Smith, T. Kumpula, G. Gauthier, L. Andreu-Hayles, B.V. Gaglioti, P. Burns, P. Zetterberg, R. D’Arrigo & S.J. Goetz. 2020. Summer warming drives widespread but not uniform greening in the Arctic tundra biome. **Nature Communications** 11:4621. | 131 | 9.20 | 99.42 |
| 2 | McKinnon, L., P.A. Smith, E. Nol, J.L. Martin, F.I. Doyle, K.F. Abraham, H.G. Gilchrist, R.I.G. Morrison & J. Bety. 2010. Lower predation risk for migratory birds at high latitudes. **Science** 327:326-327. | 190 | 7.33 | 99.01 |
| 3 | Bates, A.E., R.B. Primack & PAN-Environment Working Group (350 authors). 2021. Global COVID-19 lockdown highlights humans as both threats and custodians of the environment. **Biological Conservation** 263:109175. | 56 | 6.64 | 98.76 |
| 4 | Soininen, E.M., G. Gauthier, F. Bilodeau, D. Berteaux, P. Taberlet, L. Gielly, G. Gussarova, E. Bellemain, K. Hassel, H.K. Stenøien, L. Epp, A. Schrøder-Nielsen, C. Brochmann & N.G. Yoccoz. 2015. Highly overlapping winter diet in two sympatric lemming species revealed by DNA metabarcoding. **Plos One** 10:e0115335. | 162 | 5.39 | 98.14 |
| 5 | Bulla, M. et al. 2016. Unexpected diversity in socially synchronized rhythms of shorebirds. **Nature** 540:109-113. | 76 | 4.81 | 97.90 |
| 6 | McKinnon, L., M. Picotin, E. Bolduc, C. Juillet & J. Bety. 2012. Timing of breeding, peak food availability, and effects of mismatch on chick growth in birds nesting in the High Arctic. **Canadian Journal of Zoology** 90:961-971. | 110 | 4.99 | 97.77 |
| 7 | Lai, S., C. Warret Rodrigues, D. Gallant, J.D. Roth and D. Berteaux. 2022. Red foxes at their northern edge: competition with the Arctic fox and winter movements. **Journal of Mammalogy** 103:586–597. | 7 | 5.13 | 96.77 |
| 8 | Bêty, J., G. Gauthier & J.F. Giroux. 2003. Body condition, migration and timing of reproduction in snow geese: a test of the condition-dependent model of optimal clutch size. **American Naturalist** 162:110-121. | 217 | 4.08 | 96.57 |
| 9 | Fauteux, D., G. Gauthier & D. Berteaux. 2015. Seasonal demography of a cyclic lemming population in the Canadian Arctic. **Journal of Animal Ecology** 84:1412-1422. | 65 | 3.61 | 96.00 |
| 10 | Gagnon, C.A. & D. Berteaux. 2009. Integrating Traditional Ecological Knowledge and Ecological Science: a question of scale. **Ecology and Society** 14(2): 19. | 117 | 3.97 | 95.88 |
| 11 | Bêty, J., G. Gauthier, E. Korpimäki & J.F. Giroux. 2002. Shared predators and indirect trophic interactions: lemming cycles and arctic-nesting geese. **Journal of Animal Ecology** 71:88-98. | 129 | 3.79 | 95.78 |
| 12 | Bêty, J., J.F. Giroux & G. Gauthier. 2004. Individual variation in timing of migration: causes and reproductive consequences in greater snow geese (*Anser caerulescens atlanticus*). **Behavioural Ecology and Sociobiology** 57:1-8. | 122 | 3.55 | 95.39 |
| 13 | Lindholm, A., G. Gauthier & A. Desrochers. 1994. Effects of hatch date and food supply on gosling growth in arctic-nesting greater snow geese. **Condor** 96:898-908. | 98 | 3.42 | 95.24 |
| 14 | Davidson, S.C. et al. 2020. New ecological insights from the Arctic Animal Movement Archive (AAMA). **Science** 370:712-715. | 47 | 3.29 | 95.20 |
| 15 | Lepage, D., G. Gauthier & S. Menu. 2000. Reproductive consequences of egg-laying decisions in snow geese. **Journal of Animal Ecology** 69:414-427. | 120 | 3.55 | 95.09 |
| 16 | Ehrich, D. et al. 2020. Documenting lemming population change in the Arctic: Can we detect trends? **Ambio** 49:786-800. | 41 | 3.14 | 94.74 |
| 17 | Gauthier, G., J. Bêty, M.C. Cadieux, P. Legagneux, M. Doiron, C. Chevallier, S. Lai, A. Tarroux & D. Berteaux. 2013. Long-term monitoring at multiple trophic levels suggests heterogeneity in responses to climate change in the Canadian Arctic tundra. **Philosophical Transaction of the Royal Society – Biological Sciences** 368:20120482. | 99 | 2.75 | 94.37 |
| 18 | Doiron, M., G. Gauthier & E. Lévesque. 2015. Trophic mismatch and its effects on the growth of young in an Arctic herbivore. **Global Change Biology** 21:4364-4376. | 87 | 2.91 | 94.24 |
| 19 | Giroux, M.-A., D. Berteaux, N. Lecomte, G. Gauthier, G. Szor & J. Bêty. 2012. Benefiting from a migratory prey: spatio-temporal patterns in subsidization of an arctic predator. **Journal of Animal Ecology** 81: 533-542. | 66 | 2.99 | 94.02 |
| 20 | Gauthier, G., J. Bêty & K. Hobson. 2003. Are greater snow geese capital breeders? new evidence from a stable isotope model. **Ecology** 84:3250–3264. | 157 | 2.95 | 93.82 |
| 21 | Gauthier, G., J.F. Giroux, J. Bêty & L. Rochefort. 2004. Trophic interactions in a High Arctic Snow Goose colony. **Integrative and Comparative Biology** 44:119-129. | 102 | 3.00 | 93.78 |
| 22 | Legagneux, P., P.L.F. Fast, G. Gauthier & J. Bêty. 2012. Manipulating individual state during migration provides evidence for carry-over effects modulated by environmental conditions. **Proceedings of The Royal Society B** 279:876-883. | 65 | 2.81 | 93.29 |
| 23 | Dickey M.-H., G. Gauthier & M.C. Cadieux. 2008. Climatic effects on the breeding phenology and reproductive success of an arctic-nesting goose species. **Global Change Biology** 14:1973-1985. | 122 | 2.64 | 92.95 |
| 24 | Weiser E.L. et al. 2018. Environmental and ecological conditions at Arctic breeding sites have limited effects on true survival rates of adult shorebirds. **Auk** 135:29-43. | 32 | 2.70 | 92.76 |
| 25 | Gauthier, G. & J. Tardif. 1991. Female feeding and male vigilance during nesting in greater snow geese. **Condor** 93:701-711. | 69 | 2.66 | 92.18 |
| 26 | Legagneux, P., G. Gauthier, N. Lecomte, N.M. Schmidt, D. Reid, M-C. Cadieux, D. Berteaux, J. Bêty, C.J. Krebs, R.A. Ims, N.G. Yoccoz, R.I.G. Morrison, S.J. Leroux, M. Loreau & D. Gravel. 2014. Arctic ecosystem structure and functioning shaped by climate and herbivore body size. **Nature Climate Change** 4:379-383. | 78 | 2.42 | 91.96 |
| 27 | Gallant, D., N. Lecomte & D. Berteaux. 2020. Disentangling the relative influences of global drivers of change in biodiversity: A study of the twentieth-century red fox expansion into the Canadian Arctic. **Journal of Animal Ecology** 89: 565–576. | 24 | 2.45 | 91.29 |
| 28 | Weiser, E.L. et al. 2018. Effects of environmental conditions on reproductive effort and nest success of Arctic-breeding shorebirds. **Ibis** 160:608-623. | 31 | 2.45 | 91.28 |
| 29 | Gauthier, G., J.F. Giroux, A. Reed, A. Béchet & L. Bélanger. 2005. Interactions between land use, habitat use, and population increase in greater snow geese: what are the consequences for natural wetlands? **Global Change Biology** 11:856-868. | 120 | 2.26 | 90.48 |
| 30 | Gauthier, G., J.F. Giroux & J. Bédard. 1992. Dynamics of fat and protein reserves during winter and spring migration in greater snow geese. **Canadian Journal of Zoology** 70:2077-2087. | 63 | 2.30 | 89.78 |
| 31 | Bêty, J., G. Gauthier, J.F. Giroux & E. Korpimäki. 2001. Are goose nesting success and lemming cycles linked? Interplay between nest density and predators. **Oikos** 93:388-400. | 113 | 2.19 | 89.54 |
| 32 | Bolduc, E., N. Casajus, P. Legagneux, L. McKinnon, H. G. Gilchrist, M. Leung, R.I.G. Morrison, D. Reid, P.A. Smith, C.M. Buddle & J. Bêty. 2013. Terrestrial arthropod abundance and phenology in the Canadian Arctic: modeling resource availability for arctic-nesting insectivorous birds. **Canadian Entomologist** 145:155-170. | 45 | 2.17 | 89.50 |
| 33 | Béchet, A., J.F. Giroux & G. Gauthier. 2004. The effects of disturbance on behaviour, habitat use and energy of spring staging snow geese. **Journal of Applied Ecology** 41:689-700. | 113 | 2.15 | 89.37 |
| 34 | Gruyer, N., G. Gauthier & D. Berteaux. 2008. Cyclic dynamics of sympatric lemming populations on Bylot Island, Nunavut, Canada. **Canadian Journal of Zoology** 86:910-917. | 60 | 2.17 | 89.37 |
| 35 | Juhasz, C.C., B. Shipley, G. Gauthier, D. Berteaux & N. Lecomte. 2020. Direct and indirect effects of regional and local climatic factors on trophic interactions in the Arctic tundra. **Journal of Animal Ecology**89:704-715. | 17 | 2.22 | 89.37 |
| 36 | Berteaux, D., G. Gauthier, F. Dominé, R.A. Ims, S.F. Lamoureux, E. Lévesque & N. Yoccoz. 2017. Effects of changing permafrost and snow conditions on tundra wildlife: critical places and times. **Arctic Science**, 3:65-90. | 51 | 2.05 | 89.27 |
| 37 | Therrien, J.F., G. Gauthier, E. Korpimäki & J. Bêty. 2014. Predation pressure imposed by avian predators suggests summer limitation of small mammal populations in the Canadian Arctic. **Ecology** 95:56-67. | 65 | 2.02 | 89.11 |
| 38 | Legagneux, P., G. Gauthier, D. Berteaux, J. Bêty, M.C. Cadieux, F. Bilodeau, E. Bolduc, L. McKinnon, A. Tarroux, J.F. Therrien, L. Morissette & C.J. Krebs. 2012. Disentangling trophic relationships in a high arctic tundra ecosystem through food web modeling. **Ecology** 93:1707-1716. | 78 | 1.99 | 89.03 |
| 39 | Gauthier G. & J.D. Lebreton. 2008. Analysis of band-recovery data in a multisate capture-recapture framework. **Canadian Journal of Statistics** 36:1-15. | 33 | 2.00 | 88.57 |
| 40 | LeTourneux, F., T. Grandmont, F. Dulude-de Broin, M.C. Martin, J. Lefebvre, A. Kato, J. Bêty, G. Gauthier & P. Legagneux. 2021. COVID19-induced reduction in human disturbance enhances fattening rate of an overabundant goose species. **Biological Conservation** 255:108968. | 16 | 2.08 | 88.09 |
| 41 | Gauthier, G., R.J. Hughes, A. Reed, J. Beaulieu & L. Rochefort. 1995. Effect of grazing by greater snow geese on the production of graminoids at an arctic site (Bylot Island, NWT, Canada). **Journal of Ecology** 83:653-664. | 84 | 2.08 | 88.00 |
| 42 | Lepage, D., G. Gauthier & A. Reed. 1998. Seasonal variation in growth of greater snow goose goslings: the role of food supply. **Oecologia** 114:226-235. | 91 | 1.90 | 87.65 |
| 43 | Gauthier, G., D. Berteaux, J. Bêty, A. Tarroux, J.F. Therrien, L. Mckinnon., P. Legagneux & M.C. Cadieux. 2011. The tundra food web in a changing climate and the role of exchanges between ecosystems. **EcoScience** 18:223-235. | 76 | 1.86 | 87.50 |
| 44 | McKinnon, L., D. Berteaux & J. Bêty. 2014. Predator-mediated interactions between lemmings and shorebirds: a test of the alternative prey hypothesis. **The Auk** 131:619-628. | 39 | 1.96 | 87.46 |
| 45 | Juillet, C., R. Choquet, G. Gauthier & R. Pradel. 2010. A capture-recapture model with double-marking, live and dead encounters, and heterogeneity of reporting due to auxiliary mark loss. **Journal of Agricultural, Biological and Environmental Statistics** 16:88-104*.* | 27 | 1.92 | 87.44 |
| 46 | Beardsell, A., D. Gravel, D. Berteaux, G. Gauthier, J. Clermont, V. Careau, N. Lecomte, C.-C. Juhasz, P. Royer-Boutin & J. Bêty. 2021. Derivation of predator functional responses using a mechanistic approach in a natural system. **Frontiers in Ecology and Evolution** 9:630944 | 16 | 1.95 | 86.74 |
| 47 | Doiron, M., G. Gauthier & E. Lévesque. 2014. Effects of experimental warming on forage quality and availability for an Arctic herbivore. **Journal of Ecology** 102:508-517. | 57 | 1.77 | 86.63 |
| 48 | Weiser, E.L. et al. 2020. Annual adult survival drives trends in Arctic-breeding shorebirds but knowledge gaps in other vital rates remain. **Condor**. 122:1-14. | 14 | 1.94 | 86.46 |
| 49 | Gauthier, G., R. Pradel, S. Menu & J.D. Lebreton. 2001. Seasonal survival of greater snow geese and effect of hunting under dependence in sighting probability. **Ecology** 82:3105-3119. | 93 | 1.82 | 86.36 |
| 50 | Lewis, L.R., E. Behling, H. Gousse, E. Qian, C.S. Elphick, J.F. Lamarre, J. Bêty, J. Liebezeit & B. Goffinet. 2014. First evidence of bryophite diaspores in the plumage of transequatorial migrant birds. **PeerJ** 2:e424. | 57 | 1.88 | 85.73 |
| 51 | Menu, S., G. Gauthier & A. Reed. 2005. Survival of young greater snow geese during the fall migration.  **The Auk** 122:479-496. | 59 | 1.80 | 85.72 |
| **52** | McKinnon, L. & J. Bêty. 2009. Effect of camera monitoring on survival rates of High-Arctic shorebird nests. **Journal of Field Ornithology** 80:280-288. | 49 | 1.81 | 85.68 |
| 53 | Mainguy, J., J. Bêty, G. Gauthier & J.F. Giroux. 2002. Are body condition and reproductive effort of laying greater snow geese affected by the spring hunt? **Condor** 104:156-162. | 60 | 1.75 | 85.21 |
| 54 | Hughes, R.J., A. Reed & G. Gauthier. 1994. Space and habitat use by greater snow goose broods on Bylot Island, Northwest Territories. **Journal of Wildlife Management** 58:536-545. | 49 | 1.71 | 84.91 |
| 55 | Barrio, I.C., et al. 2022. Developing common protocols to measure tundra herbivory across spatial scales. **Arctic** **Science** 8:638-379. | 5 | 2.06 | 84.87 |
| 56 | Manseau, M. & G. Gauthier. 1993. Interactions between greater snow geese and their rearing habitat. **Ecology** 74:2045-2055. | 69 | 1.64 | 84.77 |
| 57 | Weiser, E.L. et al. 2016. Effects of geolocators on hatching success, return rates, breeding movements, and change in body mass in 16 species of Arctic-breeding shorebirds. **Movement Ecology** 4:12. | 45 | 1.63 | 84.74 |
| 58 | Therrien, J.F., G. Gauthier, D. Pinaud & J. Bêty. 2014. Irruptive movements and breeding dispersal of snowy owls: a specialised predator exploiting a pulsed resource. **Journal of Avian Biology** 45:536-544. | 33 | 1.71 | 84.38 |
| 59 | Duchesne, D., G. Gauthier & D. Berteaux. 2011. Habitat selection, reproduction and predation of wintering lemmings in the Arctic. **Oecologia** 167:967-980. | 64 | 1.54 | 83.48 |
| 60 | Gravel, R., S. Lai & D. Berteaux. 2023. Long-term satellite tracking reveals patterns of long-distance dispersal in juvenile and adult Arctic foxes (*Vulpes lagopus*). **Royal Society Open Science** 10:220729. | 1 | 3.97 | 83.40 |
| 61 | Doiron, M., P. Legagneux, G. Gauthier & E. Lévesque. 2012. Broad-scale satellite Normalized Difference Vegetation Index data predict plant biomass and peak date of nitrogen concentration in Arctic tundra vegetation. **Applied Vegetation Science** 16:343-351*.* | 33 | 1.59 | 82.83 |
| 62 | Therrien, J.F., G. Gauthier & J. Bêty. 2011. An avian terrestrial predator of the Arctic relies on the marine ecosystem during winter. **Journal of Avian Biology** 42:363-369. | 38 | 1.59 | 82.80 |
| 63 | Lecomte, N., V. Careau, G. Gauthier & J.F. Giroux. 2008. Predator behaviour and predation risk in the heterogeneous Arctic environment. **Journal of Animal Ecology** 77:439-447. | 43 | 1.56 | 82.26 |
| 64 | Choinière, L. & G. Gauthier. 1995. Energetics of reproduction in female and male greater snow geese. **Oecologia** 103:379-389. | 59 | 1.46 | 80.66 |
| 65 | Reed, A., R.J. Hughes & G. Gauthier. 1995. Incubation behavior and body mass of female greater snow geese. **Condor** 97:993-1001. | 42 | 1.43 | 80.40 |
| 66 | Menu, S., G. Gauthier & A. Reed. 2002. Changes in survival rates and population dynamics of greater snow geese over a 30-year period: Implications for hunting regulations. **Journal of Applied Ecology** 39:91-102. | 73 | 1.35 | 80.27 |
| 67 | Dominé, F., G. Gauthier, V. Vionnet, D. Fauteux, M. Dumont & M. Barrère. 2018. Snow physical properties may be a significant determinant of lemming population dynamics in the high Arctic. **Arctic Science** 4:813-826. | 31 | 1.40 | 80.25 |
| 68 | Gauthier, G. 1993. Feeding ecology of nesting greater snow geese. **Journal of Wildlife Management** 57:216-223. | 40 | 1.44 | 80.21 |
| 69 | Morrissette, M., J. Bêty, G. Gauthier, A. Reed & J. Lefebvre. 2010. Climate, indirect trophic interactions, carry-over and density-dependent effects: which factors drive high arctic snow goose productivity? **Oikos** 119:1181-1191. | 58 | 1.33 | 79.86 |
| 70 | Tarroux, A., D. Ehrich, N. Lecomte, T.D. Jardine, J. Bêty & D. Berteaux. 2010. Sensitivity of stable isotope mixing models to variation in isotopic ratios: evaluating consequences of lipid extraction. **Methods in Ecology and Evolution** 1:231-241. | 58 | 1.33 | 79.86 |
| 71 | Lepage, D., G. Gauthier & A. Desrochers. 1998. Larger clutch size increases fledging success and offspring quality in a precocial species. **Journal of Animal Ecology** 67:210-216. | 42 | 1.37 | 79.34 |
| **72** | Gauthier, G., C.J. Krebs, D. Berteaux & D. Reid. 2009. Arctic lemmings are not simply food limited – a comment on Oksanen et al. **Evolutionary Ecology Research** 11: 483-484. | 19 | 0.86 | 79.08 |
| 73 | Bilodeau, F., G. Gauthier & D. Berteaux. 2013. Effect of snow cover on the vulnerability of lemmings to mammalian predators in the Canadian Arctic. **Journal of Mammalogy** 94:813-819. | 28 | 1.35 | 78.39 |
| 74 | Cameron, C., D. Berteaux & F. Dufresne. 2011. Spatial variation in food availability predicts extrapair paternity in the arctic fox. **Behavioral Ecology** 22: 1364-1373. | 32 | 1.34 | 78.21 |
| 75 | McKinnon, L., D. Berteaux, G. Gauthier & J. Bêty. 2013. Predator-mediated interactions between preferred, alternative and incidental prey in the arctic tundra. **Oikos** 122:1042-1048. | 43 | 1.24 | 78.03 |
| 76 | Fauteux, D., G. Gauthier, D. Berteaux, C. Bosson, R. Palme & R. Boonstra. 2017. Assessing stress in Arctic lemmings: fecal metabolite levels reflect plasma free corticosterone levels. **Physiological and Biochemical Zoology** 90:370-382. | 19 | 1.37 | 77.87 |
| 77 | Lepage, D., A. Desrochers & G. Gauthier. 1999. Seasonal decline of growth and fledging success in snow geese *Anser caerulescens*: an effect of date or parental quality? **Journal of Avian Biology** 30:72-78. | 40 | 1.28 | 77.65 |
| 78 | Ehrich, D., A. Tarroux, J. Stien, N. Lecomte, S. Killengreen, D. Berteaux & N.G. Yoccoz. 2011. Stable isotope analysis: modelling lipid normalization for muscle and eggs from arctic mammals and birds. **Methods in Ecology and Evolution** 2:66-76. | 50 | 1.22 | 77.42 |
| 79 | Béchet, A., J.F. Giroux, G. Gauthier, J.D. Nichols & J. Hines. 2003. Spring hunting changes the regional movements of migrating greater snow geese. **Journal of Applied Ecology** 40:553-564. | 65 | 1.23 | 77.00 |
| 80 | Tarroux, A., D. Berteaux & J. Bêty. 2010. Northern nomads: ability for extensive movements in adult arctic foxes. **Polar Biology** 33:1021-1026. | 51 | 1.19 | 76.66 |
| 81 | Beaulieu, J., G. Gauthier & L. Rochefort. 1996. The growth response of graminoid plants to goose grazing in a High arctic environment. **Journal of Ecology** 84:905-914. | 50 | 1.17 | 76.28 |
| 82 | Reid, D., F. Bilodeau, C.J. Krebs, G. Gauthier, A.J. Kenney, B.S. Gilbert, M.C.Y. Leung, D. Duchesne & E. Hofer. 2012. Lemming winter habitat choice: a snow-fencing experiment. **Oecologia** 168:935-946. | 45 | 1.14 | 76.25 |
| 83 | Chevallier, C., G. Gauthier & D. Berteaux. 2017. Age estimation of live arctic foxes *Vulpes lagopus* based on teeth condition. **Wildlife Biology**, wlb.00304. | 19 | 1.29 | 76.15 |
| 84 | Lepage, D., G. Gauthier & A. Reed. 1996. Breeding site infidelity in greater snow goose: a consequence of constraints on laying dates? **Canadian Journal of Zoology** 74:1866-1875. | 35 | 1.25 | 75.86 |
| 85 | van Oudenhove, L., G. Gauthier & J.D. Lebreton. 2014. Year-round effects of climate on demographic parameters of an arctic nesting goose species. **Journal of Animal Ecology** 83:1322-1333. | 24 | 1.24 | 75.76 |
| 86 | Lefebvre, J., G. Gauthier, J.F. Giroux, A. Reed, E.T. Reed & L. Bélanger. 2017. The greater snow goose, a case study of managing an overabundant population in North America. **Ambio** 46 (Suppl. 2):S262–S274. | 29 | 1.19 | 75.56 |
| 87 | Robillard, A., G. Gauthier, J.F. Therrien & J. Bêty. 2018. Wintering space use and site fidelity in a nomadic species, the snowy owl. **Journal of Avian Biology** 49(5):e01707. | 15 | 1.27 | 75.16 |
| 88 | Souchay, G., G. Gauthier & R. Pradel. 2014. To breed or not: a novel approach to estimate breeding propensity and potential reproductive trade-offs in an Arctic-nesting species. **Ecology** 95:2745-2756. | 35 | 1.12 | 74.70 |
| 89 | Gauthier, G., L. Rochefort & A. Reed. 1996. The exploitation of wetland ecosystems by herbivores on Bylot Island. **Geoscience Canada** 23:253-259. | 47 | 1.04 | 73.94 |
| 90 | Bilodeau, F., G. Gauthier & D. Berteaux. 2013. The effect of snow cover on lemming population cycles in the Canadian High Arctic. **Oecologia** 172:1007-1016. | 38 | 1.07 | 73.66 |
| 91 | Massé, H., Rochefort, L. & G. Gauthier. 2001. Carrying capacity of wetland habitats used by breeding greater snow geese. **Journal of Wildlife Management** 65:271-281. | 38 | 1.12 | 73.55 |
| 92 | Féret, M., G. Gauthier, A. Béchet, J.F. Giroux & K. Hobson. 2003. Effect of a spring hunt on nutrient storage by greater snow geese in southern Québec. **Journal of Wildlife Management** 67:796-807. | 38 | 1.11 | 73.41 |
| 93 | Lesage, L. & G. Gauthier. 1997. Growth and organ development in greater snow goose goslings. **The Auk** 114:229-241. | 34 | 1.11 | 73.40 |
| 94 | Tremblay, J.P., G. Gauthier, D. Lepage & A. Desrochers. 1997. Factors affecting nesting success in greater snow geese: effects of habitat and association with snowy owls. **Wilson Bulletin** 109:449-461. | 33 | 1.11 | 73.40 |
| 95 | Reed, E.T., G. Gauthier, R. Pradel & J.D. Lebreton. 2003. Age and environmental conditions affect recruitment in greater snow geese. **Ecology** 84:219-230. | 57 | 1.08 | 73.31 |
| 96 | Kankaanpää T. et al. 2020. Parasitoids indicate major climate-induced shifts in Arctic communities. **Global Change Biology** 26:6276-6295. | 17 | 1.12 | 73.26 |
| 97 | Poulin, M.P., J. Clermont & D. Berteaux. 2021. Extensive daily movement rates measured in territorial arctic foxes. **Ecology and Evolution** 11:2503-2514. | 9 | 1.17 | 72.80 |
| 98 | Beardsell A., G. Gauthier, J.F. Therrien & J. Bêty. 2016. Nest site characteristics, patterns of nest reuse and reproductive success in an arctic nesting raptor, the Rough-legged Hawk. **Auk** 133:718-732. | 18 | 1.14 | 72.23 |
| 99 | Reed, E.T., G. Gauthier & R. Pradel. 2005. Effects of neck bands on reproduction and survival of female greater snow geese. **Journal of Wildlife Management** 69:91-100. | 34 | 1.04 | 70.92 |
| 100 | Beardsell, A., D. Gravel, J. Clermont, D. Berteaux, G. Gauthier & J. Bêty. 2022. A mechanistic model of functional response provides new insights into indirect interactions among arctic tundra prey. **Ecology** 103:e3734. | 3 | 1.23 | 70.66 |
| 101 | Careau, V., J.F. Giroux & D. Berteaux. 2007. Cache and carry: hoarding behaviour of arctic fox. **Behavioral Ecology and Sociobiology** [62](file:///C:/Users/mccad1/Documents/job/BYLOT%20ISLAND/RAPPORTS%20ET%20PERMIS/Local%20Settings/Temporary%20Internet%20Files/Local%20Settings/Temporary%20Internet%20Files/Local%20Settings/Temporary%20Internet%20Files/Local%20Settings/Temporary%20Internet%20Files/Mes%20documents/job/BYLOT%20ISLAND/RAPPORTS%20ET%20PERMIS/Local%20Settings/Temporary%20Internet%20Files/Mes%20documents/content/v56763006513/) :87-96. | 29 | 1.00 | 70.40 |
| 102 | Rheubottom S.I. et al. 2019. Hiding in the background: community-level patterns in invertebrate herbivory across the tundra biome. **Polar Biology**42:1881-1897. | 18 | 1.05 | 69.98 |
| 103 | Poussart, C., J. Larochelle & G. Gauthier. 2000. The thermal regime of eggs during laying and incubation in Greater Snow Geese. **Condor** 102:292-300. | 33 | 0.98 | 69.40 |
| 104 | Fauteux, D., G. Gauthier & D. Berteaux. 2016. Top-down limitation of lemmings revealed by experimental reduction of predators. **Ecology** 97: 3231-3241. | 27 | 0.97 | 69.24 |
| 105 | Léandri-Breton, D.J. & J. Bêty. 2020. Vulnerability to predation may affect species distribution: plovers with broader arctic breeding range nest in safer habitat. **Scientific Reports** 10: 5032. | 8 | 1.11 | 69.02 |
| 106 | Grenier-Potvin, A., J. Clermont, G. Gauthier & D. Berteaux. 2021. Prey and habitat distribution are not enough to explain predator habitat selection: addressing intraspecific interactions, behavioural state and time. **Movement Ecology** 9:12. | 9 | 1.04 | 68.80 |
| 107 | Seyer, Y., G. Gauthier, J. Bêty, J.F. Therrien & N. Lecomte. 2021. Seasonal variations in migration strategy of a long-distance Arctic-breeding seabird. **Marine Ecology Progress Series** 677:1-16. | 8 | 1.04 | 68.80 |
| 108 | Szor, G., D. Berteaux & G. Gauthier. 2008. Finding the right home: distribution of food resources and terrain characteristics influence selection of denning sites and reproductive dens in arctic foxes. **Polar Biology** 31:351-362. | 42 | 0.92 | 68.59 |
| 109 | Tarroux, A., J. Bêty, G. Gauthier & D. Berteaux. 2012. The marine side of a terrestrial carnivore: intra-population variation in use of allochthonous resources by arctic foxes. **Plos One** 7:e42427. | 35 | 0.88 | 68.10 |
| 110 | Menu,S., J.B. Hestbeck, G. Gauthier& A. Reed. 2000. Effects of neck bands on survival of greater snow geese. **Journal of Wildlife Management** 64:544-552. | 31 | 0.92 | 67.50 |
| 111 | Therrien, J.F., G. Fitzgerald, G. Gauthier & J. Bêty. 2011. Diet-tissue discrimination factors of carbon and nitrogen stable isotopes in snowy owl blood. **Canadian Journal of Zoology** 89:343-347. | 22 | 0.92 | 66.64 |
| 112 | Berteaux, D. et al. 2017. Harmonizing circumpolar monitoring of Arctic fox: benefits, opportunities, challenges, and recommendations. **Polar Research** 36 (sup1):2. | 24 | 0.90 | 65.90 |
| 113 | Côté, G., R. Pienitz, G. Velle & X. Wang. 2010. Impact of geese on the limnology of lakes and ponds from Bylot Island (Nunavut, Canada). **International Review of Hydrobiology** 95:105-129. | 23 | 0.89 | 65.68 |
| 114 | Juillet, C., R. Choquet, G. Gauthier & R. Pradel. 2012. Carry-over effects of spring hunt and climate on recruitment to the natal colony in a migratory species. **Journal of Applied Ecology** 49:1237-1246. | 31 | 0.80 | 64.97 |
| 115 | Lai, S., J. Bêty & D. Berteaux. 2015. Spatio–temporal hotspots of satellite–tracked arctic foxes reveal a large detection range in a mammalian predator. **Movement Ecology** 3:37 | 25 | 0.84 | 64.95 |
| 116 | Elmhagen, B. et al. 2017. Homage to Hersteinsson and Macdonald: climate warming and resource subsidies cause red fox range expansion and Arctic fox decline. **Polar Research** 36 (sup1): 3. | 58 | 0.77 | 64.65 |
| 117 | Robillard, A., G. Gauthier, J.F. Therrien, G. Fitzgerald, J.F. Provencher & J. Bêty. 2017. Variability in stable isotopes of snowy owl feathers and contribution of marine resources to their winter diet. **Journal of Avian Biology** 48:759-769. | 13 | 0.93 | 64.64 |
| 118 | Reed, E.T., J. Bêty, J. Mainguy, G. Gauthier & J.F. Giroux. 2003. Molt migration in relation to breeding success in greater snow geese. **Arctic** 56:76-81. | 42 | 0.81 | 64.44 |
| 119 | Mainguy, J., G. Gauthier, J.F. Giroux & J. Bêty. 2006. Gosling growth and survival in relation to brood movements in Greater Snow Geese (*Chen caerulescens atlantica*). **The Auk** 123:1077-1089. | 27 | 0.85 | 64.24 |
| 120 | Gauthier, G., P. Besbeas, J.D. Lebreton & B.J.T. Morgan 2007. Population growth in snow geese: A modeling approach integrating demographic and survey information. **Ecology** 88:1420-1429. | 39 | 0.81 | 64.14 |
| 121 | Seyer, Y., G. Gauthier, J. Bêty, D. Fauteux & J.F. Therrien. 2020. Resource partitioning among avian predators of the Arctic tundra. **Journal of Animal Ecology** 89:2934-2945. | 9 | 0.97 | 64.00 |
| 122 | Demers, F., J.F. Giroux, G. Gauthier & J. Bêty. 2003. Effects of collar-attached transmitters on behavior, pair bond, and breeding success of snow geese. **Wildlife Biology** 9:161-170. | 28 | 0.82 | 63.77 |
| 123 | Gauthier, G., G. Péron, J.D. Lebreton, P. Grenier & L. van Oudenhove. 2016. Partitioning prediction uncertainty in climate-dependent population models. **Proceedings of the Royal Society B Biological Sciences** 283:20162353. | 14 | 0.89 | 63.42 |
| 124 | Lamarre, J.F., P. Legagneux, G. Gauthier, E.T. Reed & J. Bêty. 2017. Predator-mediated negative effects of overabundant snow geese on arctic-nesting shorebirds. **Ecosphere** 8(5):e01788. | 21 | 0.82 | 62.47 |
| 125 | Calvert, A.M. & G. Gauthier. 2005. Effects of exceptional conservation measures on survival and seasonal hunting mortality in greater snow geese. **Journal of Applied Ecology** 42:442-452. | 41 | 0.78 | 62.42 |
| 126 | Therrien, J.F., G. Gauthier & J. Bêty. 2012. Survival and reproduction of adult snowy owls tracked by satellite. **Journal of Wildlife Management** 76: 1562-1567. | 18 | 0.82 | 62.39 |
| 127 | Poirier, M., G. Gauthier & F. Dominé. 2019. What guides lemming movements through the snowpack? **Journal of Mammalogy** 100:1416–1426. | 10 | 0.92 | 62.37 |
| 128 | Robillard, A., J.F. Therrien, G. Gauthier, J. Bêty & K.M. Clark. 2016. Pulsed resources at tundra breeding sites affect winter irruptions at temperate latitudes of a top predator, the snowy owl. **Oecologia** 181:423–433. | 21 | 0.78 | 61.41 |
| 129 | Gignac, C., L. Rochefort, G. Gauthier, E. Lévesque, V. Maire, L. Deschamps, R. Pouliot & M. Marchand-Roy. 2022. N/P addition is more likely than N addition alone to promote a transition from moss-dominated to graminoid-dominated tundra in the High-Arctic. **Atmosphere** 13:676. | 2 | 0.96 | 61.01 |
| 130 | Lai, S., J. Bêty & D. Berteaux. 2017. Movement tactics of a mobile predator in a meta-ecosystem with fluctuating resources: the arctic fox in the High Arctic. **Oikos** 126:937-947. | 20 | 0.78 | 60.50 |
| 131 | Fortin, D., J. Larochelle & G. Gauthier. 2000. The effect of wind, radiation and body orientation on the thermal environment of greater snow goose goslings. **Journal of Thermal Biology** 25:227-238. | 25 | 0.71 | 59.69 |
| 132 | Curk, T. et al. 2020. Arctic avian predators synchronise their spring migration with the northern progression of snowmelt. **Scientific Reports** 10:7220. | 12 | 0.75 | 58.39 |
| 133 | Reed, A., H. Boyd, P. Chagnon & J. Hawkings. 1992. The numbers and distribution of greater snow geese on Bylot Island and near Jungersen Bay, Baffin Island, in 1988 and 1983. **Arctic** 45:115-119. | 23 | 0.58 | 58.13 |
| 134 | Léandri-Breton, D.J., J.F. Lamarre & J. Bêty. 2019. Seasonal variation in migration strategies used to cross ecological barriers in a Nearctic migrant wintering in Africa. **Journal of Avian Biology** 50: | 9 | 0.82 | 57.95 |
| 135 | Weiser, E.L. et al. 2018. Life-history tradeoffs revealed by seasonal declines in reproductive traits of Arctic-breeding shorebirds. **Journal Avian Biology** 49:e01531. | 27 | 0.73 | 57.53 |
| 136 | Souchay, G., G. Gauthier & R. Pradel. 2013. Temporal variation of juvenile survival in a long-lived species: the role of parasites and body condition. **Oecologia** 173:151-160. | 23 | 0.66 | 57.41 |
| 137 | Carmichael, L. E., J. Krizan, J. A. Nagy, E. Fuglei, M. Dumond, D. Johnson, A. Veitch, D. Berteaux & C. Strobeck. 2007. Historical and ecological determinants of genetic structure in arctic canids. **Molecular Ecology** 16:3466–3483. | 102 | 0.60 | 56.22 |
| 138 | Lecomte, N., G. Gauthier, J.F. Giroux, E. Milot & L. Bernatchez. 2009. Tug of war between continental gene flow and rearing site philopatry in a migratory bird: the sex-biased dispersal paradigm reconsidered. **Molecular Ecology** 18:593-602. | 27 | 0.65 | 56.19 |
| 139 | Lepage, D., D. N. Nettleship & A. Reed. 1998. Birds of Bylot Island and adjacent Baffin Island, Northwest Territories, Canada, 1979 to 1997. **Arctic** 51:125-141. | 28 | 0.59 | 55.30 |
| 140 | Calvert, A.M., G. Gauthier & A. Reed. 2005. Spatiotemporal heterogeneity of greater snow goose harvest and implications for hunting regulations. **Journal of Wildlife Management** 69:561-573. | 21 | 0.64 | 55.16 |
| 141 | Lecomte, N., G. Gauthier & J.F. Giroux. 2009. A link between water availability and nesting success mediated by predator-prey interactions in the Arctic. **Ecology** 90:465-475. | 27 | 0.63 | 54.95 |
| 142 | Meyer N. et al. 2020. Nest attentiveness drives nest predation in arctic sandpipers. **Oikos**. 129:1481-1492. | 9 | 0.67 | 54.30 |
| 143 | Christin, S., M-H. St-Laurent & D. Berteaux. 2015. Evaluation of Argos telemetry accuracy in the High-Arctic and implications for the estimation of home-range size. **Plos One** 10:e0141999. | 12 | 0.69 | 54.08 |
| 144 | Bêty, J. & G. Gauthier. 2001. Effects of nest visits on predators activity and predation rate in a snow goose colony. **Journal of Field Ornithology** 72:573-586. | 20 | 0.59 | 53.64 |
| 145 | Fauteux, D., G. Gauthier, M. Mazerolle, N. Coallier, J. Bêty & D. Berteaux. 2018. Evaluation of invasive and non-invasive methods to monitor rodent abundance in the Arctic. **Ecosphere** 9(2):e02124. | 13 | 0.65 | 53.48 |
| 146 | Duchesne, D., G. Gautier & D. Berteaux. 2011. Evaluation of a method to determine the breeding activity of lemmings in their winter nests. **Journal of Mammalogy** 92:511-516. | 16 | 0.63 | 53.19 |
| 147 | Seyer, Y., G. Gauthier, L. Bernatchez & J.F. Therrien. 2019. Sexing a monomorphic plumage seabird using morphometrics and assortative mating. **Waterbirds** 42:380-392. | 7 | 0.71 | 52.70 |
| 148 | Menu, S., G. Gauthier & A. Reed. 2001. Survival of juvenile greater snow geese immediately after banding. **Journal of Field Ornithology** 72:282-290. | 19 | 0.56 | 52.09 |
| 149 | Careau, V., N. Lecomte, J. Bêty, J.F. Giroux, G. Gauthier & D. Berteaux. 2008. Hoarding of pulsed resources: temporal variations in egg-caching behaviour of arctic fox. **Ecoscience** 15:268-273. | 26 | 0.57 | 51.70 |
| 150 | Duchesne, E., J.F. Lamarre, G. Gauthier, D. Berteaux, D. Gravel & J. Bety. 2021. Variable strength of predator-mediated effects on species occurrence in an arctic terrestrial vertebrate community. **Ecography** 44: 1236–1248. | 5 | 0.65 | 51.29 |
| 151 | Nishizawa, K., L. Deschamps, V. Maire, J. Bêty, E. Lévesque, R. Kitagawa, S. Masumoto, I. Gosselin, A. Morneault, L. Rochefort, G. Gauthier, Y. Tanabe, M. Uchida & A.S. Mori. 2021. Long-term consequences of goose exclusion on nutrient cycles and plant communities in the High-Arctic. **Polar Science** 27 :100631. | 5 | 0.65 | 51.29 |
| 152 | Gauthier, G., P. Legagneux, M.A. Valiquette, M.C. Cadieux & J.F. Therrien. 2015. Diet and reproductive success of an Arctic generalist predator: Interplay between variations in prey abundance, nest site location and intraguild predation. **The Auk** 132:735-747. | 11 | 0.63 | 50.89 |
| 153 | McCabe, R.A., J.F. Therrien, K.L. Wiebe, G. Gauthier, D. Brinker, S. Weidensaul & K. Elliott. 2021. Landscape cover type, not social dominance, is associated with the winter movement patterns of snowy owls in temperate areas. **Ornithology** 138:1-12. | 4 | 0.74 | 50.81 |
| 154 | Gruyer, N., G. Gauthier & D. Berteaux. 2010. Demography of two lemming species on Bylot Island, Nunavut, Canada. **Polar Biology** 33:725-736. | 23 | 0.54 | 50.21 |
| 155 | Soininen, E.M., D. Ehrich, N. Lecomte, N.G. Yoccoz, A. Tarroux, D. Berteaux, G. Gauthier, L. Gielly, C. Brochmann, G. Gussarova & R.A. Ims. 2014. Sources of variation in small rodent trophic niche: new insights from DNA metabarcoding and stable isotope analysis. **Isotopes in Environmental & Health Studies** 50:361-381. | 18 | 0.56 | 50.02 |
| 156 | Béchet, A., A. Reed, N. Plante, J.F. Giroux & G. Gauthier. 2004. Estimating the size of large bird populations: the case of the greater snow goose. **Journal of Wildlife Management** 68:639-649. | 18 | 0.53 | 49.56 |
| 157 | Careau, V., N. Lecomte, J.F. Giroux & D. Berteaux. 2007. Common ravens raid arctic fox food caches. **Journal of Ethology** 25:79-82. | 16 | 0.54 | 49.43 |
| 158 | Careau, V., J.F. Giroux, G. Gauthier & D. Berteaux. 2008. Surviving on cached food – the energetics of egg-caching by arctic foxes. **Canadian Journal of Zology** 86:1217-1223. | 15 | 0.54 | 48.92 |
| 159 | Therrien, J.F., D. Pinaud, G. Gauthier, N. Lecomte, K.L. Bildstein & J. Bêty. 2015. Is pre-breeding prospecting behaviour affected by snow cover in the irruptive snowy owl? A test using state-space modelling and environmental data annotated via Movebank. **Movement Ecology** 3:1-8. | 16 | 0.54 | 48.29 |
| 160 | Krebs, C.J., F. Bilodeau, D. Reid, G. Gauthier, A.J. Kenney, S. Gilbert, D. Duchesne & D.J. Wilson. 2012. Are lemming winter nest counts a good index of population density? **Journal of Mammalogy** 93:87-92. | 12 | 0.54 | 48.09 |
| 161 | Ellis, C. J. & L. Rochefort. 2004. Century-scale development of polygon-patterned tundra wetland, Bylot Island (73 degrees N, 80 degrees W). **Ecology** 85:963-978. | 26 | 0.50 | 47.71 |
| 162 | Pouliot, R., L. Rochefort & G. Gauthier. 2009. Moss carpets constrain the fertilizing effects of herbivores on graminoid plants in arctic polygon fens. **Botany** 87:1209-1222. | 15 | 0.53 | 47.61 |
| 163 | Tiusanen, M. et al. 2019. Flower-visitor communities of an arcto-alpine plant—Global patterns in species richness, phylogenetic diversity and ecological functioning. **Molecular Ecology** 28:318-335. | 10 | 0.58 | 47.61 |
| 164 | Hutchison, C., F. Guichard, P. Legagneux, G. Gauthier, J. Bêty, D. Berteaux, D. Fauteux & D. Gravel. 2020. Seasonal food webs with migrations: Multi-season models reveal indirect species interactions in the Canadian Arctic tundra. **Philosophical Transactions of the Royal Society A – Physical Sciences A** 20190354. | 5 | 0.52 | 46.78 |
| 165 | Ellis, C.J., L. Rochefort, G. Gauthier & R. Pienitz. 2008. Paleoecological evidence for transitions between contrasting land-forms in a polygon-patterned High Arctic wetland. **Arctic, Antarctic and Alpine Research** 40:624-637. | 23 | 0.48 | 46.30 |
| 166 | Lecomte, N., G. Gauthier & J.F. Giroux. 2008. Breeding dispersal in a heterogeneous landscape: the influence of habitat and nesting success in greater snow geese. **Oecologia** 155:33-41. | 22 | 0.48 | 46.30 |
| 167 | Gauthier, G. & R.J. Hughes. 1995. The palatability of arctic willow for greater snow geese: the role of nutrients and deterring factors. **Oecologia** 103:390-392. | 10 | 0.30 | 45.75 |
| 168 | Blouin, F., J.F. Giroux, J. Ferron, G. Gauthier & J. Doucet. 1999. The use of satellite telemetry to track greater snow geese. **Journal of Field Ornithology** 70:187-199. | 14 | 0.45 | 45.54 |
| 169 | Poussart, C., G. Gauthier & J. Larochelle. 2001. Incubation behavior of greater snow geese in relation to weather conditions. **Canadian Journal of Zoology** 79:671-678. | 15 | 0.44 | 44.88 |
| 170 | Chevallier, C., G. Gauthier, S. Lai & D. Berteaux. 2020. Pulsed food resources affect reproduction but not adult apparent survival in arctic foxes of the High Arctic. **Oecologia** 193:557-569. | 8 | 0.52 | 44.63 |
| 171 | Bilodeau, F., D. Reid, G. Gauthier, C.J. Krebs, D. Berteaux & A. Kenney. 2013. Demographic response of tundra small mammals to a snow fencing experiment. **Oikos** 122:1167-1176. | 17 | 0.46 | 44.24 |
| 172 | Ellis, C. J. & L. Rochefort. 2006. Long-term sensitivity of a High Arctic wetland to Holocene climate change. **Journal of Ecology** 94:441-454. | 23 | 0.44 | 43.80 |
| 173 | Fortin, D., G. Gauthier & J. Larochelle. 2000. Body temperature and resting behavior of greater snow goose goslings in the High Arctic. **Condor** 102:163-171. | 14 | 0.41 | 43.43 |
| 174 | Clermont, J., A. Grenier‐Potvin, E. Duchesne, C. Couchoux, F. Dulude‐de Broin, A. Beardsell, J. Bêty & D. Berteaux. 2021. The predator activity landscape predicts the anti‐predator behavior and distribution of prey in a tundra community. **Ecosphere** 12:e03858. | 5 | 0.52 | 42.88 |
| 175 | Clermont, J., S. Woodward-Gagné & D. Berteaux. 2021. Digging into the behaviour of an active hunting predator: arctic fox prey caching events revealed by accelerometry. **Movement Ecology** 9:58. | 4 | 0.52 | 42.88 |
| 176 | Mainguy, J., G. Gauthier, J.F. Giroux & I. Duclos. 2006. Habitat use and behaviour of greater snow geese during movements from nesting to brood-rearing areas. **Canadian Journal of Zoology** 84:1096-1103. | 14 | 0.44 | 42.56 |
| 177 | Legagneux, P., A.A. Simard, G. Gauthier & J. Bêty. 2013. Effect of neck collars on the body condition of migrating Greater Snow Geese. **Journal of Field Ornithology** 84:201-209. | 10 | 0.48 | 42.35 |
| 178 | Rioux, M.J., S. Lai, N. Casajus, J. Bêty & D. Berteaux. 2017. Winter home range fidelity and extraterritorial movements of Arctic fox pairs in the Canadian High Arctic. **Polar Research** 36 (Sup1):11. | 10 | 0.45 | 39.73 |
| 179 | Wheeler, H.C., D. Berteaux, C. Furgal, K. Cazelles, N.G. Yoccoz, & D. Grémillet. 2019. Identifying key needs for the integration of social–ecological outcomes in arctic wildlife monitoring. **Conservation Biology** 33:861–872. | 8 | 0.46 | 39.24 |
| 180 | Kalhor, D., M. Poirier, A. Pusenkova, X. Maldague, G. Gauthier & T. Galstian. 2021. A camera trap to reveal the obscure world of the arctic subnivean ecology. **IEEE Sensors Journal** 21:28025-28036. | 4 | 0.39 | 36.77 |
| 181 | Bilodeau, F., G. Gauthier, D. Fauteux & D. Berteaux. 2014. Does lemming winter grazing impact vegetation in the Canadian Arctic? **Polar Biology** 37:845–857. | 12 | 0.37 | 35.93 |
| 182 | Larsson, P., et al. 2019. Consequences of past climate change and recent human persecution on mitogenomic diversity in the arctic fox. **Philosophical Transaction of the Royal Society – Biological Sciences** 374: 20190212. | 7 | 0.40 | 35.06 |
| 183 | Bilodeau, F., A. Kenney, S. Gilbert, E. Hofer, G. Gauthier, D. Reid, D. Berteaux & C.J. Krebs. 2013. Evaluation of a technique to trap lemmings under the snow. **Arctic** 66:32-36. | 12 | 0.35 | 34.96 |
| 184 | Berteaux, D., D. Gallant, B. N. Sacks & M.J. Statham. 2015. Red foxes (*Vulpes vulpes*) at their expanding front in the Canadian Arctic have indigenous maternal ancestry. **Polar Biology** 38:913-917. | 11 | 0.37 | 34.80 |
| 185 | Lesage, L. & G. Gauthier. 1998. Effect of hatching date on body and organ development in greater snow goose goslings. **Condor** 100:316-325. | 9 | 0.29 | 34.65 |
| 186 | Pouliot, R., M. Marchand-Roy, L. Rochefort & G. Gauthier. 2010. Estimating moss growth in arctic conditions: a comparison of three methods. **The Bryologist** 113:322-332. | 9 | 0.35 | 34.31 |
| 187 | Piedboeuf, N. & G. Gauthier. 1999. Nutritive quality of forage plants for greater snow goose goslings: when is it advantageous to feed on grazed plants? **Canadian Journal of Zoology** 77:1908-1918. | 9 | 0.29 | 34.06 |
| 188 | Bêty, J., M. Graham-Sauvé, P. Legagneux, M.C. Cadieux & G. Gauthier. 2014. Fading indirect effects in a warming Arctic tundra. **Current Zoology** 60:189-202. | 7 | 0.36 | 32.75 |
| 189 | Carmichael, L.E., G. Szor, D. Berteaux, M.A. Giroux, C. Cameron & C. Strobeck. 2007. Free love in the far North: plural breeding and polyandry of arctic foxes (*Alopex lagopus*) on Bylot Island, Nunavut. **Canadian Journal of Zoology** 85:338-343. | 9 | 0.30 | 32.61 |
| 190 | Lecomte, N., G. Gauthier, L. Bernatchez & J.F. Giroux. 2006. A non-damaging blood sampling technique of waterfowl embryos. **Journal of Field Ornithology** 77:24-27. | 10 | 0.31 | 32.56 |
| 191 | Souchay, G., G. Gauthier, J. Lefebvre & R. Pradel. 2015. Absence of difference in survival between two distant breeding sites of greater snow geese. **Journal of Wildlife Management** 79:570-578. | 6 | 0.34 | 30.69 |
| 192 | Audet, B., E. Lévesque & G. Gauthier. 2007. Seasonal variation in plant nutritive quality for greater snow goose goslings in mesic tundra. **Canadian Journal of Botany** 85:457-462. | 8 | 0.27 | 29.88 |
| 193 | Fauteux, D., G. Gauthier, D. Berteaux, R. Palme & R. Boonstra. 2018. High Arctic lemmings remain reproductively active under predator‑induced elevated stress. **Oecologia** 187:657-666. | 7 | 0.33 | 29.10 |
| 194 | Righi, M. & G. Gauthier. 2002. Natural infection by intestinal cestodes: variability and effect on growth in greater snow goose goslings. **Canadian Journal of Zoology** 80:1077-1083. | 8 | 0.24 | 28.56 |
| 195 | Souchay, G., O. Gimenez, G. Gauthier & R. Pradel. 2014. Variations in band reporting rate and implications for kill rate in greater snow geese. **Avian Conservation Ecology** 9:1. | 6 | 0.31 | 28.33 |
| 196 | Marmillot, V., G. Gauthier, M.C. Cadieux & P. Legagneux. 2016. Plasticity in molt speed and timing in an arctic-nesting goose species. **Journal of Avian Biology** 47:650-658. | 5 | 0.32 | 28.28 |
| 197 | Valéry, L., M.C. Cadieux & G. Gauthier. 2010. Spatial heterogeneity of primary production as both cause and consequence of foraging patterns of an expanding Greater Snow Goose colony. **Ecoscience** 17:9-19. | 11 | 0.26 | 27.61 |
| 198 | Chevallier, C., S. Lai & D. Berteaux. 2016. Predation of arctic fox pups by common ravens. **Polar Biology** 39:1335-1341. | 7 | 0.30 | 27.14 |
| 199 | Ferguson, S., D. Berteaux, A. Gaston, J. Higdon, N. Lecomte, N. Lunn, M. Mallory, J. Reist, D. Russell, N. Yoccoz & X. Zhu. 2012. Time series data for Canadian arctic vertebrates: IPY contributions to science, management, and policy. **Climatic Change** 115:235-258. | 9 | 0.25 | 26.25 |
| 200 | Reséndiz-Infante, C. & G. Gauthier. 2020. Temporal changes in reproductive success and optimal breeding decisions in a long-distance migratory bird. **Scientific Reports** 10:22067. | 4 | 0.30 | 26.11 |
| 201 | Reséndiz-Infante, C., G. Gauthier & G. Souchay. 2020. Consequences of a changing environment on the breeding phenology and reproductive success components in a long-distance migratory bird. **Population Ecology** 62:284-296. | 4 | 0.30 | 26.11 |
| 202 | Berteaux D., N. Casajus, A. Angerbjörn & E. Fuglei. 2017. Foreword to Supplement 1: research on a polar species - the Arctic fox. **Polar Research** 36 (sup1):1. | 7 | 0.29 | 25.53 |
| 203 | Schmidt, E., D. Fauteux, J.F. Therrien, G. Gauthier & Y. Seyer. 2020. Improving diet assessment of Arctic terrestrial predators with the size of rodent mandibles. **Journal of Zoology** 311:23-32. | 2 | 0.28 | 22.55 |
| 204 | Lamarre, J.F. et al. 2021. Timing of breeding site availability across the North-American Arctic partly determines spring migration schedule in a long-distance Neotropical migrant. **Frontiers in Ecology and Evolution** 9:710007. | 2 | 0.26 | 21.95 |
| 205 | McCabe, R. et al. 2022. Density-dependent winter survival of immatures in an irruptive raptor with pulsed breeding. **Oecologia** 198:295-306.. | 2 | 0.26 | 21.95 |
| 206 | Meyer, N. et al. 2021. Behavioural responses of breeding arctic sandpipers to ground-surface temperature and primary productivity. **Science of the Total Environment** 755:142485. | 2 | 0.26 | 21.95 |
| 207 | Jasmin, J.N., L. Rochefort & G. Gauthier. 2008. Goose grazing influences the fine-scale structure of an arctic wetland bryophyte community. **Polar Biology** 31:1043-1049. | 9 | 0.20 | 21.68 |
| 208 | Fortin, D. & G. Gauthier. 2000. The effect of postural adjustment on the thermal environment of greater snow goose goslings. **Canadian Journal of Zoology** 78:817-821. | 5 | 0.15 | 21.13 |
| 209 | Béchet, A., J.F. Giroux, G. Gauthier & M. Belisle. 2010. Why roost at the same place? Exploring short-term fidelity in staging snow geese. **Condor** 112:294-303. | 5 | 0.19 | 19.90 |
| 210 | Robillard, A., G. Gauthier, J.F. Therrien & J. Bêty. 2021. Linking winter habitat use, diet and reproduction in snowy owls using satellite tracking and stable isotope analyses. **Isotopes in Environmental & Health Studies** 57:166-182. | 3 | 0.22 | 19.14 |
| 211 | Beardsell, A., G. Gauthier, D. Fortier, J.F. Therrien & J. Bêty. 2017. Vulnerability to geomorphological hazards of an arctic cliff-nesting raptor, the rough-legged hawk. **Arctic Science** 3:203-219. | 5 | 0.20 | 17.54 |
| 212 | Audet, B., G. Gauthier & E. Lévesque. 2007. Feeding ecology of greater snow goose goslings in mesic tundra on Bylot Island, Nunavut, Canada. **Condor** 109:361-376. | 4 | 0.13 | 17.01 |
| 213 | Cooch, E.G., G. Gauthier & R. Rockwell. 2003. Apparent differences in stochastic growth rates based on timing of census: a cautionary note. **Ecological Modelling** 159:133-143. | 8 | 0.13 | 16.82 |
| 214 | Wheeler, H.C., D. Berteaux, C. Furgal, B. Parlee, N.G. Yoccoz, and D. Grémillet. 2016. Stakeholder perspectives on triage in wildlife monitoring in a rapidly changing Arctic. **Frontiers in Ecology and Evolution** 4:128. | 5 | 0.19 | 16.27 |
| 215 | Fauteux, D., G. Gauthier, G. Slevan-Tremblay & D. Berteaux. 2018. Life in the fast lane: learning from the rare multi-year recaptures of brown lemmings in the High Arctic. **Arctic Science** 4:146-151. | 4 | 0.19 | 16.05 |
| 216 | Peck, K., A. Franke, N. Lecomte & J. Bêty. 2018. Nesting habitat selection and distribution of an avian top predator in the Canadian Arctic. **Arctic Science** 4:499-512. | 3 | 0.14 | 11.65 |
| 217 | Frederick, C., C. Girard, G. Wong, M. Lemire, A. Langwieder, M.C. Martin & P. Legagneux. 2021. Communicating with Northerners on the absence of SARS-CoV-2 in migratory snow geese. **Ecoscience** 28:217-223. | 1 | 0.13 | 10.31 |
| 218 | Poirier, M., D. Fauteux, G. Gauthier, F. Dominé & J.F. Lamarre. 2021. Snow hardness impacts intranivean locomotion of arctic small mammals. **Ecosphere** 12(11):e03835. | 2 | 0.13 | 10.31 |
| 219 | Lapierre-Poulin, F., D. Fortier & D. Berteaux. 2021. Low vulnerability of Arctic fox dens to climate change-related geohazards on Bylot Island, Nunavut, Canada. **Arctic Science** 7:746–761. | 1 | 0.13 | 10.31 |
| 220 | Norén, K., L. Dalén, Ø. Flagstad, D. Berteaux, J. Wallén & A. Angerbjörn. 2017. Evolution, ecology and conservation – revisiting three decades of arctic fox population genetic research. **Polar Research** 36 (Sup1):4. | 6 | 0.08 | 6.63 |
| 221 | Fauteux, D., G. Slevan-Tremblay, G. Gauthier & D. Berteaux. 2017. Feeding preference of brown lemmings for plant parts of Arctic willow. **Polar Biology** 40:2329-2334. | 3 | 0.08 | 5.88 |
| 222 | Desnoyers, M., G. Gauthier & J. Lefebvre. 2013. Stable associations within greater snow goose flocks: do they exist beyond family bonds? **The** **Auk** 129:611-622. | 1 | 0.05 | 4.75 |
| 223 | Therrien, J.F. 2010. Territorial behavior of Short-eared Owls, Asio flammeus, at more than 1000 km north of their current breeding range in north-eastern Canada: evidence of range expansion. **Canadian Field-Naturalist** 124:58-60. | 2 | 0.05 | 4.72 |
| 224 | Fournier, F. & G. Gauthier. 2002. The effect of food quality on developmental plasticity and digestive efficiency in greater snow goose goslings. **Integrative and Comparative Biology** 42:1231-1231. | 0 | 0 | 0.05 |
| 225 | Féret M., J. Bety, G. Gauthier, J.F. Giroux & G. Picard. 2005. Are abdominal profiles useful to assess body condition of spring staging Greater Snow Geese? **Condor** 107:694-702. | 15 | 0 | 0 |
| 226 | Fauteux, D. & G. Gauthier. 2022. Density-dependent demography and movements in a cyclic brown lemming population. **Ecology and Evolution** 12:e9055. | 1 | 0 | 0 |
| 227 | Grandmont, T., P. Fast, I. Grentzmann, G. Gauthier, J. Bêty & P. Legagneux. 2023. Should I breed or should I go? Manipulating individual state during migration influences breeding decisions in a long-lived bird species. **Functional Ecology** 37:602-613. | 1 | 0 | 0 |
| 228 | Léandri-Breton, D.J., M. Jaffré & J. Bêty. 2017. A rare dark morph in the Canadian Arctic raises questions about molting and polymorphism in Long-tailed Jaeger. **Wilson Journal of Ornithology** 130: 337-340. | 0 | 0 | 0 |
| 229 | Juhasz, C.C., A. Lycke, V. Careau, G. Gauthier, J.F. Giroux & N. Lecomte. 2018 Picking the right cache: Caching-site selection for egg predators in the Arctic. **Polar Biology** 41:2233-2238. | 0 | 0 | 0 |
| 230 | Bolduc, D., D. Fauteux, É. Bharucha, J.M. Trudeau & P. Legagneux. 2022. Ultra-light photosensor collars to monitor Arctic lemming activity. **Animal biotelemetry** 10:31. | 0 | 0 | 0 |
| 231 | LeTourneux, F., G. Gauthier, R. Pradel, J. Lefebvre & P. Legagneux. 2022. Evidence for synergistic cumulative impacts of marking and hunting in a wildlife species. **Journal of Applied Ecology** 59:2705-2715. | 0 | 0 | 0 |
| 232 | Bolduc, D., D. Fauteux, C.-A. Gagnon, G. Gauthier, J. Bêty & P. Legagneux. 2023. Testimonials to reconstruct past abundances of wildlife populations. **Basic & Applied Ecology** 68:23-34. | 0 | 0 | 0 |
| 233 | Clermont, J., C. Couchoux, S. Lai & D. Berteaux. 2023. Prey availability influences the effect of boldness on reproductive success in a mammalian predator. **Behavioral Ecology and Sociobiology** 77:71. | 0 | 0 | 0 |
| 234 | Deschamps, L., V. Maire, L. Chen, D. Fortier, G. Gauthier, A. Morneault, E. Hardy-Lachance, I. Dalcher-Gosselin, F. Tanguay, C. Gignac, J.M. McKenzie, L. Rochefort & E. Lévesque. 2023. Increased nutrient availability speeds up permafrost development, while goose grazing slows it down in a Canadian High Arctic wetland. **Journal of Ecology** 111:449-463. | 0 | 0 | 0 |
| 235 | Moisan, L., D. Gravel, P. Legagneux, G. Gauthier, D.J. Léandri-Breton, M. Somveille, J.F. Therrien, J.F. Lamarre & J. Bêty. 2023. Scaling migrations to communities: an empirical case of migration network in the Arctic. **Frontiers in Ecology and Evolution** 10:1077260. | 0 | 0 | 0 |
| 236 | Seyer, Y., G. Gauthier & J.F. Therrien. 2023. High site fidelity and low divorce rate in an Arctic monogamous seabird. **Ibis** 165:685-690. | 0 | 0 | 0 |
| 237 | Tardy, O., C. Lenglos, S. Lai, D. Berteaux & P. A. Leighton. 2023. Rabies transmission in the Arctic: An agent-based model reveals the effects of broad-scale movement strategies on contact risk between Arctic foxes. **Ecological Modelling** 476:110207. | 0 | 0 | 0 |
| 238 | Poirier, M., G. Gauthier, F. Dominé & D. Fauteux. 2023. Lemming winter habitat: the quest for warm and soft snow. **Oecologia** 202:211–225. | 0 | 0 | 0 |

1 Total number of times that a publication was cited (absolute citation count).

2 Category Normalized Citation Impact (CNCI) of a publication calculated by dividing the actual count of citing publications by the average citation rate for publications of the same type, year of publication and subject area.

3 Percentage of publications of the same type, year of publication and subject area that have a citation count lower than the current publication.

**Table S2**. List of all funding agencies.

|  |  |
| --- | --- |
| Funding agency | Funding program |
| Natural Sciences and Engineering Research Council of Canada | Discovery Grant  Northern Supplement  Research Tools and Instruments  Special program of the International Polar Year  Discovery Frontiers (ADAPT)  Canada Research Chairs  Collaborative Research and Training Experience program (CREATE) |
| Fonds Québécois de Recherche Nature et Technologies | Équipes de recherche  Relève professorale  Regroupement Stratégique (Centre d’études nordiques) |
| Natural Resources Canada | Polar Continental Shelf Program |
| Network of Centers of Excellence Canada | ArcticNet |
| Canada First Research Excellence Fund | Sentinel North Program |
| Polar Knowledge Canada | Northern Scientific Training Program  Science and Technology Program |
| Environment and Climate Change Canada | Contribution Agreement  Arctic Goose Joint Venture  Northern Ecosystem Initiative  Access to the Pond Inlet Research Station |
| Canada Foundation for Innovation | John R. Evans Leaders Fund  Innovation Fund |
| Parks Canada Agency |  |
| International Polar Year program of the Government of Canada | Science and Research projects  Arctic Research Infrastructure Fund  Logistics for Health and Safety |
| Crown-Indigenous Relations and Northern Affairs Canada | Northern Contaminant Program |
| Duck Unlimited Canada |  |
| Kenneth M. Molson Foundation | Kenneth M. Molson Foundation’s donation for wildlife research, conservation and habitat |
| Garfield Weston Foundation |  |
| First Air – Canadian North |  |
| Nunavut Wildlife Management Board |  |
| Université Laval |  |
| Université du Québec à Rimouski | Support to Research Groups |