

Hardy as Chickadees: Denali's Winter Citizen Scientists

By Carol McIntyre, Nan Eagleson,
and David Tomeo

The Christmas Bird Count (CBC) is the longest-running and most widespread bird survey in the Western Hemisphere (Dunn *et al.* 2005). With nearly 50,000 volunteers participating in 2,000 CBCs across North America annually, the CBC is a shining example of how the public can contribute to scientific research. The Denali CBC is conducted by volunteers that are as hardy as the birds they seek. With temperatures rarely rising above -20°F (-29°C) and the sun barely peeking over the Alaska Range, these volunteers travel via dog sled, skis, and snowshoes searching for birds. While enjoying this celebration of birds, these volunteers are providing park scientists with a valuable data set.

Twenty-six species were recorded in the Denali CBC between 1992 and 2004 (Table 1). Spruce grouse, gray jay, black-billed magpie, common raven, black-capped and boreal chickadees, pine grosbeak, and redpoll were detected in most years. The count in Denali tends to be a boom-or-bust experience; the number of individual birds counted annually

ranged from 71 to 935. The boom comes in years when seed-eating redpolls and white-winged crossbills take advantage of massive crops of viable white spruce seeds. These finches accounted for 64% to 76% of birds detected in the years with the highest counts.

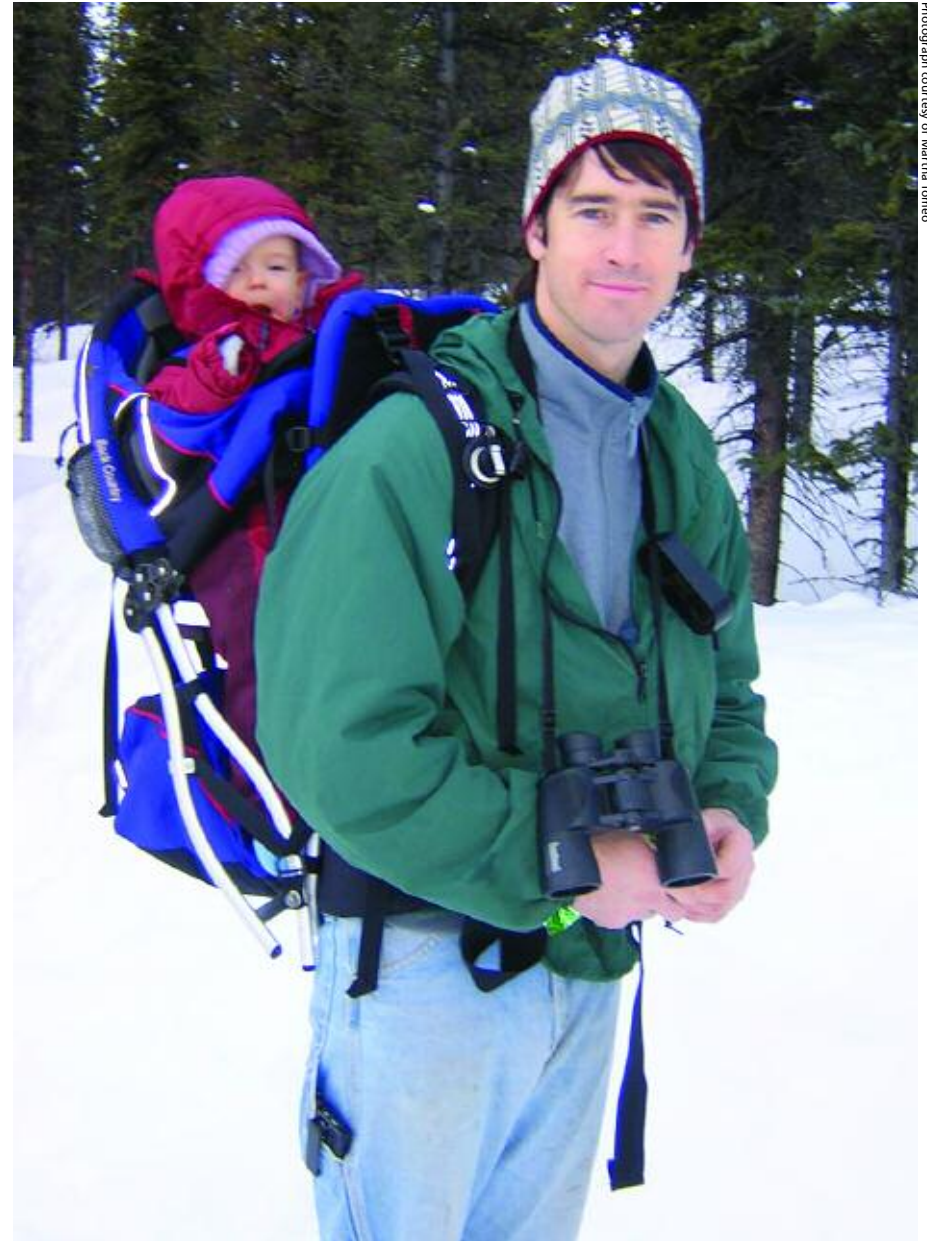
Scientists are using the CBC data on multiple scales to monitor bird populations. On a hemispheric scale, CBC data are valuable for monitoring broad-scale trends of bird species abundance and distribution. Statewide, CBC data are valuable for monitoring numbers of birds wintering in Alaska. Locally, CBC data are valuable for monitoring the presence and relative abundance of winter birds in this area and for monitoring changes in the ecosystem. You can learn more about the Christmas Bird Count at <http://www.audubon.org/bird/cbc/index.html>

REFERENCES

Dunn, E.H., C.M. Francis, P.J. Blancher, S.R. Drennan, M.A. Howe, D.Lepage, C.S. Robbins, K.V. Rosenberg, J.R. Sauer, and K.G. Smith. 2005. *Enhancing the scientific value of the Christmas Bird Count.* *Auk* 122:338-346.

Table 1. Species observed on the Denali Christmas Bird Count, 1992 to 2004

Bald eagle	Northern hawk owl	Boreal chickadee
Northern goshawk	Downy woodpecker	Red-breasted nuthatch
Golden eagle	Hairy woodpecker	American dipper
Ruffed grouse	Three-toed woodpecker	Dark-eyed junco
Spruce grouse	Northern shrike	Pine grosbeak
Willow ptarmigan	Gray jay	White-winged crossbill
Rock ptarmigan	Black-billed magpie	Common redpoll
White-tailed ptarmigan	Common raven	Hoary redpoll
Great horned owl	Black-capped chickadee	



Photograph courtesy of Martha Tomeo

David Tomeo and daughter Emma participating in the 2004 Denali Christmas Bird Count.