

FEATURE ARTICLES

**SHOREBIRD ABUNDANCE AND DISTRIBUTION ON THE COASTAL PLAIN
OF THE ARCTIC NATIONAL WILDLIFE REFUGE**

STEPHEN BROWN^{1,6}, JONATHAN BART², RICHARD B. LANCTOT³, JAMES A.
JOHNSON³, STEVE KENDALL⁴, DAVID PAYER⁴, AND JAY JOHNSON⁵

¹*Manomet Center for Conservation Sciences, P.O. Box 1770, Manomet, MA 02345*

²*U.S. Geological Survey Forest and Rangeland Ecosystem Science Center, Snake River
Field Station, 970 Lusk St., Boise, ID 83706*

³*U.S. Fish and Wildlife Service, Migratory Bird Management, 1011 East Tudor Road, MS
201, Anchorage, AK 99503*

⁴*U.S. Fish and Wildlife Service, Arctic National Wildlife Refuge, 101 12th Avenue, Room
236, Fairbanks, AK 99701*

⁵*U.S. Fish and Wildlife Service, Information Technology Management, 1011 East Tudor
Road, MS 271, Anchorage, AK 99503*

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⁶ E-mail: sbrown@manomet.org

Abstract. The coastal plain of the Arctic National Wildlife Refuge hosts seven species of migratory shorebirds listed as highly imperiled or high priority by the U.S. Shorebird Conservation Plan and five species listed as Birds of Conservation Concern by the U.S. Fish and Wildlife Service. During the first comprehensive shorebird survey of the 674 000 ha “1002 Area” on the coastal plain, we recorded 14 species of breeding shorebirds at 197 rapidly surveyed plots during June 2002 and 2004. We also estimated detection ratios with a double counting technique, using data collected at 37 intensively studied plots located on the North Slope of Alaska and northern Canada. We stratified the study area by major habitat types, including wetlands, moist areas, uplands, and riparian areas, using previously classified Landsat imagery. We developed population estimates with confidence limits by species, and estimated the total number of shorebirds in the study area to be 230 000 (95% CI: 104 000–363 000), which exceeds the biological criterion for classification as both a Western Hemisphere Shorebird Reserve Network Site of International Importance (100 000 birds) and a Ramsar Wetland of International Importance (20 000 birds), even when conservatively estimated. Species richness and the density of many species were highest in wetland or riparian habitats, which are clustered along the coast.

Key words: 1002 Area, Arctic National Wildlife Refuge, coastal plain, shorebirds.