

Alaska Bird Observatory Executive Summary

- The U.S. Fish and Wildlife Service considers the Arctic Warbler (*Phylloscopus borealis kennicotti*) a Species of Concern.
- The breeding range of Arctic Warblers in North America is limited to Alaska and only a handful of studies have examined the nesting ecology of Arctic Warblers throughout their range.
- Working cooperatively with the Bureau of Land Management, the Alaska Department of Fish and Game and the Denali Highway Cabins, we established a study site in the Tangle Lakes region along the Denali Highway in central Alaska to study the nesting ecology of Arctic Warblers.
- We established four 10-ha study plots in the study area. All plots contained a mixture of dwarf birch and willow vegetation. Mosses formed a nearly continuous ground layer on all plots.
- We used spot-mapping and systematic walks through the plots to locate singing males, breeding pairs, and nests.
- We detected the first singing male in the study area on 8 June 2004.
- We found 24 Arctic Warblers nests; 22 in our study plots and two adjacent to our study plots. The highest density of nests was in plot 3 (8 nests).
- We discovered the first nest on 28 June 2004. We found seven nests during the incubation stage and 17 nests during the nestling stage.
- The nests were cryptic and dome-shaped with a side entrance. All nests were on the ground, typically at the base of a tussock, and were constructed of grass interwoven with moss and moose or caribou hair.
- Clutch size averaged 5.2 eggs (SD = 1.00, range 3 to 7).
- We observed the first nestling on 7 July 2004 and the first fledging on 16 July 2004.
- We observed family groups, with one or both adults feeding fledglings from 16 to 30 July 2004.
- We estimated nesting success at 92%; 22 of the 24 nests fledged at least one young. We could not determine the cause of the two nest failures.
- Brood reduction occurred at nine successful nests (41%), but we found no difference between clutch size and brood size at 13 nests (59%).
- We calculated productivity as 4.1 nestlings per occupied nest (SD = 1.7, range = 0 to 6 nestlings) and mean brood size (nestlings per successful nest) as 4.5 nestlings (SD = 1.2, range 2 to 6).
- We used mist nets to capture adults and banded 16 adult males, 4 adult females and 2 adults of indeterminate sex with U.S. Fish and Wildlife Service leg bands and a unique combination of three plastic color leg bands.
- We banded 48 nestling from 11 individual nests with U.S. Fish and Wildlife Service leg bands.
- We documented an apparent case of polygyny. We observed two males and one female delivering food to one nest.