

AERIAL SURVEY OF FURBEARER POPULATIONS IN INTERIOR ALASKA

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A two-year study was conducted from November 1984 to September 1986 to determine the distribution and relative abundance of red fox (Vulpes vulpes), marten (Martes americana), lynx (Lynx canadensis), and snowshoe hare (Lepus americanus) on the Yukon Flats National Wildlife Refuge (YFNWR) in interior Alaska. An aerial survey technique was developed, tested, and used to count furbearer tracks in snow during late winter-early spring. Surveys were conducted along 343 5-km transects spaced systematically across the 34,925-km² refuge. All transects were flown in 125 hours using Super Cub aircraft and the same observer. Correction factors were developed to account for bias in track-density indices due to differential sightability of tracks in four vegetation cover classes (VCC) and track accumulation over a variable number of days after snowfall (DAS). Sightability of tracks from the air was tested against ground counts for closed, open, woodland, and bare VCC's. Corrections for track counts of each species were derived from the sightability of carnivore and hare tracks per VCC and the percentage of each VCC length along a transect. Track accumulation differences among transects were corrected by relating multiple DAS for each transect to one DAS. Corrected track densities for each species were compared among transects: (1) across the entire refuge, (2) in elevation strata (lowlands, benches, and hills), and (3) in two burned areas (Lone Mountain burn, ca. 1979 and Little Black River burn, ca. 1950). Relative abundance indices of tracks/km ranged from 0.0 to 1.96 for red foxes, 0.0 to 3.78 for marten, 0.0 to 0.64 for lynx, and 0.0 to 13.94 for snowshoe hares. Red foxes largely used the central lake flats of the YFNWR. Important habitat for marten seemed to be mature coniferous and coniferous-deciduous-mixed forest and the Lone Mountain burn. Lynx were most concentrated in mid-successional forest where the habitat was diverse and hare tracks were most plentiful. The Lone Mountain burn was further analyzed as a test case for a potential approach to determine relative furbearer abundance in specific areas and at

different times. Harvests by trappers, use patterns, and observations of furbearers during the 1984-85 trapping season indicated lynx numbers were near a cyclic low and that marten were the staple catch (with lynx being an important supplement). Continued development of monitoring techniques for furbearers, and analysis of the status, habitat relationships, and human use of furbearing populations are recommended.

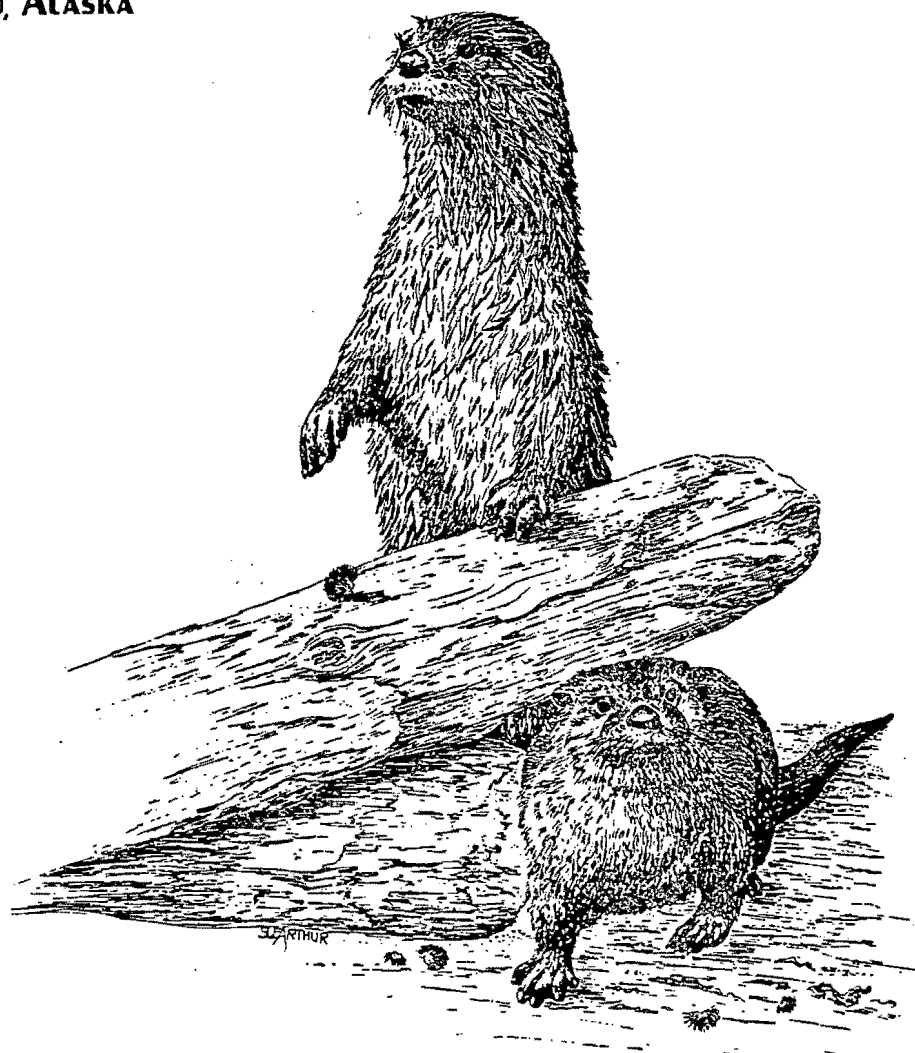
ABSTRACTS

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