

White Pine Use by Female Black Bears in Northeastern Minnesota

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ABSTRACT. White pines (*Pinus strobus*) were the preferred rest and refuge sites for 4 female black bears (*Ursus americanus*) in northeastern Minnesota. Although mature white pines comprised <0.4 percent of the trees >13 cm DBH in the study area, bears made 119 (55%) of 216 beds at the bases of them and remained in those beds for 29,314 (72%) of 40,622 resting minutes. Cubs 3-5 months old climbed mature white pines that had strong, ridged bark more easily than they climbed tree species that had smooth or shaggy bark. Mothers with cubs selected white pines 41-92 cm DBH (average DBH 69 cm) for 26 (90%) of 29 beds in early spring. Use of white pines declined through the year as cub climbing ability improved and as females with cubs foraged away from white pines in search of patently distributed foods. In late spring and summer, females with cubs used white pines for only 39 (55%) of 71 day beds out moved to white pines for 28 (88%) of 32 overnight beds. Lone females, by contrast, used white pines for only 14 (22%) of 64 day beds and only 9 (60%) of 15 overnight beds, preferring cool, lowland situations for 33 (61%) of 54 day beds where habitat was recorded. Two hollow pines >81 cm DBH were used as dens. In regions where blister rust (*Cronartium ribicola*) infection and browsing by white-tailed deer (*Odocoileus virginianus*) limit white pine regeneration, special consideration and management will be required to maintain current levels of white pine abundance and distribution.

Key words: *Ursus americanus*, *Pinus strobus*, beds, refuge, dens, old growth, habitat, cubs, tree-climbing.