

THE EFFECTS OF CATTLE GRAZING ON DUCK AND SHOREBIRD PRODUCTION IN THE ASPEN PARKLAND ECOREGION ^{TWS}

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The beef industry is growing rapidly throughout the Aspen Parkland of Canada. Increasing cattle numbers will affect the amount of pasture and potentially its value as duck and shorebird nesting and brood-rearing habitat. Increasing cattle herds will likely lead to higher stocking rates on pastures and use of previously idled areas. Conversely, conversion of cropland to pastureland may benefit upland nesting ducks and shorebirds by increasing the amount of perennial cover. We undertook the current study to evaluate the relationships of nest-site selection, nesting success, and brood abundance of upland nesting ducks and shorebirds to grazing intensity in tame and native/naturalized pastures of the Aspen Parkland. Nest searches occurred on 54 study sites in the western Aspen Parkland of Alberta. Vegetation physiognomy was quantified at each nest using Robel and Weins pole measurements. Within field vegetation physiognomy was similarly quantified at random points within pastures. Duck breeding pair and brood surveys were conducted in each pasture. Despite extensive drought, nest searches located 176 duck and 35 shorebird nests. Over half of the duck nests found were blue-winged teal; similarly, killdeer dominated the shorebird nests found. Density of duck nests on moderately grazed pastures was approximately half that of lightly grazed or idled pastures. Duck nest daily survival rates (dsr) show a trend toward greater success in native vs. tame pastures and in moderate vs. heavy or low grazing intensity sites. However, estimates have poor precision due to small sample size, and therefore are not statistically different. Shorebird nest selection favored heavily grazed treatments - 17 of 35 were found in this treatment. Shorebird nest dsr were higher in native pastures than in tame, but not significantly different. This was the first year of a multi-year study.