



Patuxent Wildlife Research Center Science Brief for Resource Managers

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Effect of hunting on survival and habitat use by American woodcock *Scolopax minor* on breeding and migration areas

Description:

The American woodcock (*Scolopax minor*) population has declined over the last 29 years at an annual rate of 2.5% in the Eastern region and 1.6% in the Central region (Bruggink 1996). The major causes of the decline are thought to be degradation and loss of suitable habitat, caused by forest succession and changes in land use (Dwyer et al. 1983, Owen et al. 1977, Straw et al. 1994). Although hunting is not thought to be a cause of the decline, there is a need to determine the effects of harvest on this declining population (USDI 1990). Estimates of the retrieved kill of woodcock increased from 789,000 in 1969 (Sheldon 1971) to 1,328,000 (U. S. only) in 1977 (Owen et al. 1977) to 2,000,000 in 1990 (USDI 1990). Although harvest estimates after harvest restrictions dropped to about 1.1 million (Straw et al. 1994) and data from the Wing Surveys indicated that seasonal hunter success has been declining during the last decade (Bruggink 1996), available habitat continues to decline. We will use radio-telemetry to determine sources of mortality, survival rates, habitat use, and movement of juvenile woodcock during fall on local areas within the breeding range of the woodcock and on staging areas during migration.

Progress to Date:

We marked woodcock on 3 sites in Maine, 1 in New Hampshire, 1 in Vermont, and on 2 sites in Pennsylvania. In April and May, the 12 Singing Ground Surveys (SGS) were completed at MNWR; 110 males were recorded. We conducted 18 SGS on Champion International Corp. land and recorded 127 males. We captured 8 males and 3 females at MNWR and 49 males and 11 females at the Champion site. During May and June we searched for broods for 34.2 hours with a pointing dog and located 24 different broods; The brood indices were; MNWR, 0.442 broods/h vs. Champion, 0.487 broods/

h. This would indicate poor production, however after receiving some rain during late May the index increased to 1.17/h on the Champion site. In 1998, at the Frye Mountain Wildlife Management Area, ME MDIFW personnel recorded 20 singing males in April. Fourteen singing males were captured. During spring 1999, MDIFW personnel recorded 29 singing male woodcock at FMWMA. Seven singing males were captured, of which two had transmitters from 1998 that were still functioning. Subsequently 4 females with functioning transmitters were located. In addition, 1 male and 2 females with functioning transmitters were also located on the Champion site. In NH in 1999, the equivalent of 7 singing ground routes were surveyed and recorded 36 males. We searched for broods for 7.35 hours and located 3 broods, indicating low production. Although moisture conditions were better in NH, we caught and radio-marked only 35 woodcock at the Dartmouth College site; the age ratio was less than 1 (0.82 young/adult female).

Management Implications:

Results of this study will allow USFWS to better evaluate effects of hunting on woodcock populations and allow development of appropriate management strategies for the species.

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