160. Impacts of land-use conversion for bioenergy on wildlife habitat
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Abstract: Significant landscape changes could result from bioenergy production in the United States, affecting a wide range of ecosystems goods and services, including wildlife habitat. Key drivers include bioenergy policy (e.g., Renewable Fuels Standard), development of carbon markets, and land conservation policies (e.g., Conservation Reserve Program). Concerns exist that planting trees for bioenergy and carbon credits in previously non-wooded areas may result in significant losses in wildlife habitat. We examine the potential linkages among policy variables that could affect wildlife habitat across regional landscapes. We perform sensitivity analyses involving those variables, such as different scenarios for the future course of the Conservation Reserve Program and afforestation opportunities. We consider these land-use change scenarios and possible impacts on wildlife habitat within a total land base context, comparing scenarios to baseline projections of area changes for major land uses. Impacts focus on disturbances that drive changes in habitat, such as deforestation. Historical planted areas of short rotation woody crops are relatively small compared to other land base changes such as amounts of forestland projected to be converted to developed uses, however, the potential under climate change policy scenarios as projected by economic models of land use is much larger than historical amounts.
Keywords: aforestation, bioenergy, land use, mitigation, wildlife habitat