Bioenergy and Biodiversity

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Abstract: Concerns about energy availability, cost, and climate change have increased attention to policy that encourages advances in biomass production and capacity to process biomass. Bioenergy policy and production can result in positive steps toward meeting U.S. energy needs but sustainability depends on consideration of impact on the Nation's natural resources to ensure all societal needs are met. Fish, wildlife, and their native habitats are among the resources that can be affected and are important for many reasons, including how they contribute to the overall economy (the outdoor economy is a $730 billion/year industry and accounts for one in 20 of all U.S. jobs), and because they represent an irreplaceable storehouse of genetic diversity not fully explored in regard to societal benefits. Studies indicate that 30 U.S. ecosystems have declined in area by >98%, 58 by 85%-98%, and 38 by 70%-84%. Ecosystem losses are greatest in the South, Northeast, Midwest, and California—areas where interest in bioenergy production is strongest. Bioenergy can be compatible with sustainability of biodiversity including with species that are habitat specialists and, therefore, particularly susceptible to population decline as native ecosystems are fragmented and altered. The primary risks to fish, wildlife, and their native habitats are land conversion, use of aggressive species that invade/degrade native habitats, reduced plant diversity, management that diminishes habitat, and reduction in water quantity/quality. This presentation contrasts the biomass and wildlife habitat paradigms and offers two alternatives that could result in sustainability of biodiversity as bioenergy policy and production proceeds.

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