

AN ECOLOGICAL RISK ASSESSMENT OF WIND ENERGY DEVELOPMENT IN MONTANA

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In 2008 the United States led the world in wind power generation, providing 35 percent of the nation's new electrical generating capacity. Montana ranks fifth among states for wind energy potential. Wind facilities are not stand-alone features—they cover vastly more area than the footprint of the turbines, requiring extensive road systems and transmission corridors. The challenge for wind energy development in Montana is to produce relatively clean energy that does not contribute to global climate change, while minimizing impacts to biodiversity. We have completed an ecological risk assessment at coarse and fine scales for Montana. We utilized a diverse assemblage of wildlife species of concern, selecting for those that research suggests would be the most susceptible to wind energy development. We estimate that in total about 17 million ac of available good-to-superb wind energy potential exists within Montana, and of that, at least 7.7 million ac have a high risk to potentially impact species of concern. We strongly suggest that these areas be avoided as locations for wind energy development, rather than considering mitigation approaches, as the lands identified are often critical habitat for multiple species.