

ENERGY DEVELOPMENT THEME

Energy Development in the Great Plains: Ecological Implications and Restoration Opportunities

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Abstract: Grasslands have a long history of disturbance including fire, herbivory, and habitat alterations by wildlife. Within the past 100 years, energy development has aimed to utilize previously untapped grassland resources. Therefore, disturbances associated with energy development are relatively new to the grasslands and can differ from historical grassland disturbances in their spatial distribution and impact to the soil profile. The exploration, extraction/harvesting, and distribution phases of energy development can impact grassland soil, vegetation, wildlife, water, and air quality at both local and regional spatial scales. Additionally, the socio-economic effects of energy development often result in increased pressure on grasslands as communities expand and recreational use increases. Knowledge of potential impacts from oil, gas, coal, and wind energy development can help inform best practices before, during, and after development that minimize these potential impacts. The ecological implications of energy development and subsequent opportunities for restoration will be explored as we provide an overview and discuss energy development in the Great Plains.