Wetlands and Coal Surface Mining: A Management Handbook

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Abstract
As the third phase of a three-year project, this report outlines management options for protecting wetlands during the surface mining of coal, particularly for the portion of the Eastern Interior Coal Region that is found in Kentucky, Indiana, and Illinois. It is presented in manual form for use by coal mine operators, regulatory agencies and research institutions.

The previous phases of the project produced an atlas of the most heavily-mined areas of the western Kentucky coal field, which classified and identified wetlands in these areas, and discussed some specific impacts of mining on these wetlands. The need to present information that will lead to action by coal operations and regulatory agencies to protect wetland areas, is the incentive for this report.

The main issues addressed in this the manual include: basic information for identifying wetlands; wetland values, and methods used for values assessment; how coal surface mining can affect wetlands; a method for addressing wetland protection needs and some prevention and mitigation actions; reclamation alternatives, including wetland restoration and the creation of wetlands as alternative ecosystems on mined areas; and general legal and regulatory information concerning wetland protection and surface mining of coal.

Information was gathered through a search of current literature and by contact with state and federal agencies, some coal mining operations, and other concerned organizations. A detailed listing of places to go for more information is included as an appendix.

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A Handbook of Constructed Wetlands. ACKNOWLEDGMENTS. VOLUME 1. Wetlands are likely to form where landforms direct surface water to shallow basins and where a relatively impermeable subsurface layer prevents the surface water from seeping into the ground. These conditions can be created to construct a wetland. The types of constructed wetlands appropriate for domestic wastewater, agricultural wastewater, coal mine drainage, and stormwater runoff are discussed in the wastewater-specific volumes. Water level is above the ground surface; vegetation is rooted and emerges above the water surface; waterflow is primarily above ground.