



# Renewable Northwest Project

Advocating Clean Generation For The Next Generation

**July 6, 2010**

## **RNP Commissions Greater Sage-Grouse Report**

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At the request of the Renewable Northwest Project, WEST, Inc. and Wyoming Wildlife Consultants LLC created this report which summarizes major issues associated with wind energy development and greater sage-grouse in the western U.S.

Specifically, we developed a brief summary of the major threats to sage-grouse, reviewed the pertinent literature on response of sage-grouse and similar species to wind energy development, provided several stipulations to avoid and minimize impacts to sage-grouse when planning and developing wind energy facilities, and provided a framework for mitigation through habitat enhancements that might be used to offset potential impacts to sage-grouse associated with wind energy development.

Sage-grouse are native game birds closely tied to sagebrush dominated habitats in the western United States and Canada. Sage-grouse originally occurred in 12 states and three Canadian provinces, but have been extirpated from Nebraska and British Columbia. Due primarily to alteration or elimination of sagebrush habitat, sage-grouse currently occupy only approximately 56 percent of their pre-European distribution, and overall abundance has decreased by up to 93 percent from presumed historic levels.

Based on a review of the literature, the current primary threats to sage-grouse include habitat loss, with fire and invasive plant species being major current sources of habitat loss; habitat fragmentation, especially as it relates to energy development; improper livestock grazing; West Nile virus; and climate change. Recreational hunting is currently not considered a threat to maintaining healthy sage-grouse populations.

Wind energy development may affect sage-grouse directly through collisions with wind energy facilities such as wind turbines and transmission lines, although it is unlikely that direct mortality would ever be substantial enough to cause population declines in most cases. The primary concern with wind energy development in sage-grouse habitats is indirect impacts that may occur if wind energy development displaces grouse and/or reduces survival.

Unfortunately, well-designed studies examining the potential impacts of wind energy development on sage and related prairie grouse species have not been completed, although telemetry studies are ongoing to evaluate effects of wind energy development on greater prairie chickens in Kansas and greater sage-grouse in Wyoming. Both of these studies as well as other observational studies indicate that sage-grouse and prairie grouse may continue to use habitats near wind-energy facilities; however, research conducted on greater sage-grouse response to oil and gas development has found that population declines due to oil and gas development may not occur until anywhere from two to ten years post-construction. Therefore, long-term data will likely be required to fully assess how sage-grouse respond to wind energy development.

This report provides several stipulations that may be used to avoid or minimize impacts when selecting sites for wind energy development as well as during the construction and operational phases of a wind energy facility. Finally, we provide a framework for developing a holistic sage-grouse management or mitigation plan for a given project area, primarily through habitat enhancements, and provide background information for each step for use by those developing the plan.

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