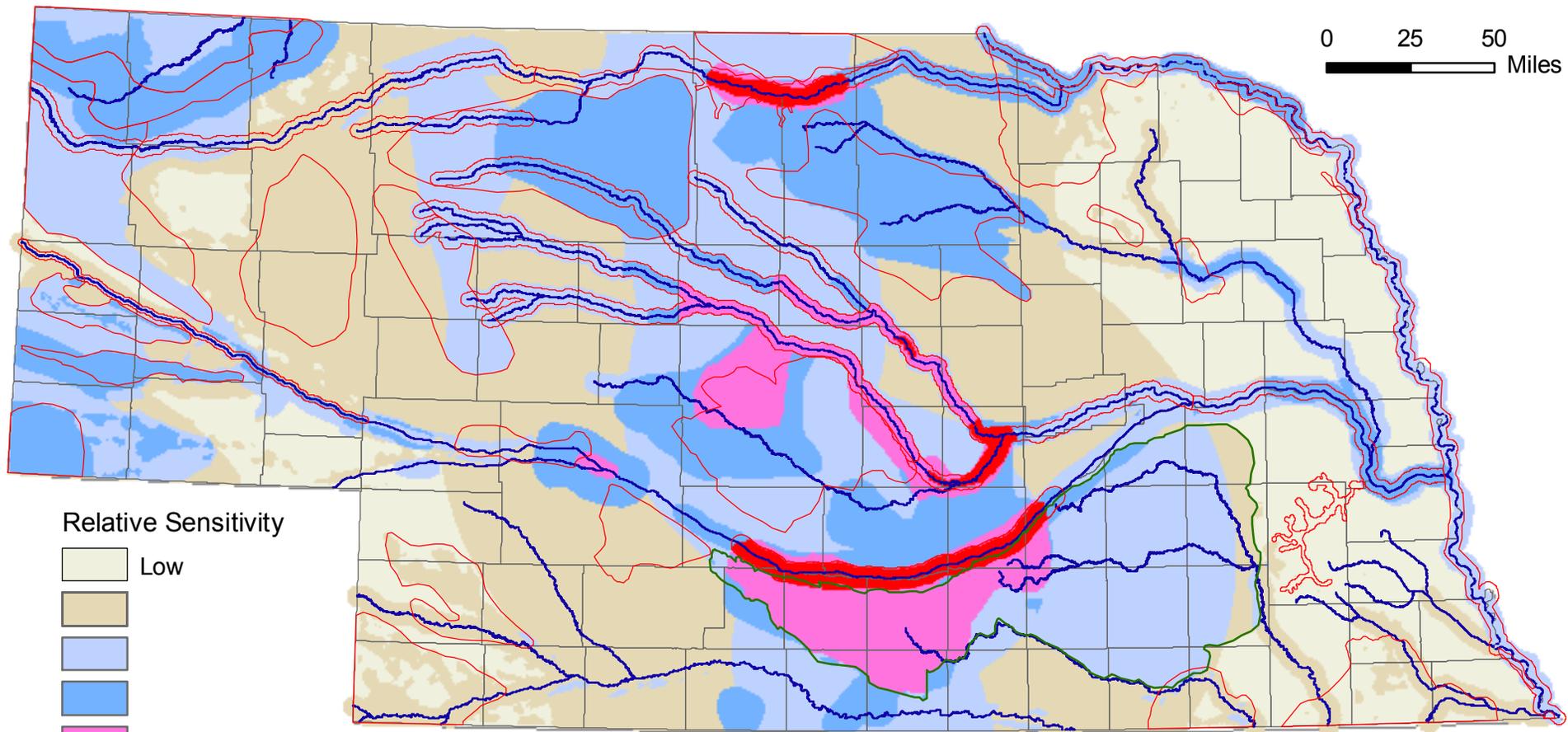


Wind Energy and Nebraska's Wildlife:

An index of the sensitivity of wildlife habitats to wind energy development, based on selected at-risk species



Relative Sensitivity

-  Low
-  Medium-Low
-  Medium-High
-  High
-  Very High

Biologically Unique Landscapes



Migratory Bird Landscape



This map was designed to aid in planning for wind energy development by identifying areas that are considered relatively more sensitive or less sensitive to such development, with respect to species of concern. This map is not designed to evaluate wind farm siting at specific locations. Even in “low sensitivity” areas shown, there will be specific locations where siting of wind power infrastructure can negatively impact significant biological resources (e.g. remnant tallgrass prairie, listed plant species, etc.). Contact the Nebraska Game and Parks Commission and the U.S. Fish and Wildlife Service for potential site-specific impacts and potential conservation measures to avoid “take” under the state Nongame and Endangered Species Conservation Act and the federal Endangered Species Act.

See attached document for a description of the information used to develop this map.

Map version date: March 1, 2011

**Wind Energy and Nebraska's Wildlife:
An index of the sensitivity of wildlife habitats to wind energy development,
based on selected at-risk species**

This map was designed to aid in planning for wind energy development by identifying areas of the state that are considered relatively more sensitive or less sensitive to such development, with respect to selected species of concern. This map is not designed to evaluate wind farm siting at specific locations. Even in "low sensitivity" areas shown on the map, there will be specific locations where siting of wind power infrastructure can negatively impact significant biological resources (e.g. remnant tallgrass prairie, listed plant species, etc.). Proposed wind farms will need to have a detailed, site-specific environmental evaluation and we recommend coordination with Nebraska Game and Parks Commission and U.S. Fish and Wildlife Service staff.

The map is based on the following species or groups of species: bald eagle, 3 species of bats, bighorn sheep, ferruginous hawk, golden eagle, greater prairie-chicken, interior least tern, long-billed curlew, mountain plover, piping plover, sharp-tailed grouse, and whooping crane. Important migratory stopovers for birds are also included. For each species or migratory stopover, areas of concern were delineated based on expert knowledge and species occurrence data. For some species, portions of their areas were ranked as relatively more/less important.

Species were selected for inclusion in the map, and were assigned relative weights, based on several factors. Factors considered were: status with respect to the state and federal endangered species acts, degree of imperilment, susceptibility to direct damage by turbine blades, and susceptibility to loss of available habitat through avoidance of areas with wind towers. For example, stopover sites for the federally endangered whooping crane are very highly weighted. This species is rare; less than 250 whooping cranes survive in the Central Flyway population, the only self-sustaining population in the world. Direct effects (e.g., potential turbine and related power line collisions) and indirect effects of wind energy development (e.g., reduced availability of nightly roost areas during migration due to avoidance of prime wetlands in the vicinity of turbines) could impact the survival of the species.

There are a number of at-risk species for which damage can be minimized through siting of individual towers and other infrastructure within a wind farm location, and these species were not included in the map. For example, plant species of concern have restricted distributions and are relatively immobile. Therefore, within the area selected for a given wind farm, direct damage to an at-risk plant may be minimized by placing turbines away from the plant's population.

The Biologically Unique Landscapes (BULs) and Migratory Bird Landscape (MBL) were delineated by the Nebraska Natural Legacy Project (Nebraska's State Wildlife Action Plan, <http://outdoornebraska.ne.gov/wildlife/programs/legacy/>), based on known occurrences of at-risk species and high quality examples of natural communities, embedded in a relatively intact landscape. These areas represent the best opportunities to conserve the full array of Nebraska's flora and fauna. These landscapes are the focus of significant conservation effort among a variety of conservation agencies and organizations in the state. One of the conservation goals is to reduce habitat fragmentation in these BULs/MBL and thus infrastructure development in these landscapes should be carefully evaluated.

This draft map was developed by an informal working group at the Nebraska Game and Parks Commission. As new information becomes available on species' distributions or susceptibility to wind power development, the map will be updated. For further information on wind energy and Nebraska's wildlife, please see *Guidelines for Wind Energy and Wildlife Resource Management in Nebraska*, <http://outdoornebraska.ne.gov/wildlife/windwildlife.asp>.

Map last updated 01 March 2011.