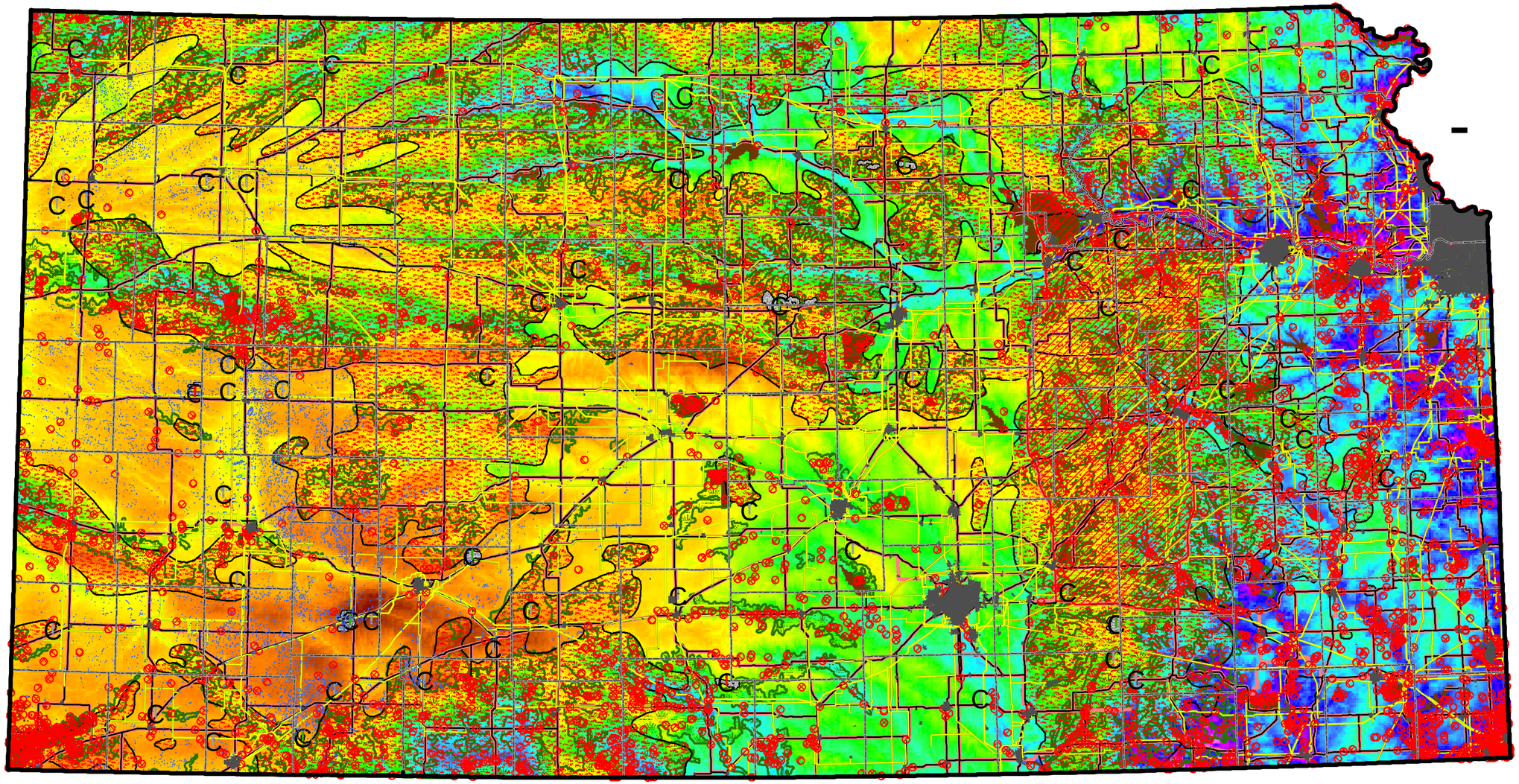
ATTACHMENT 3

Figure: Using GIS for Wind Resource Planning in Kansas. Kansas Wildlife and Parks, Kansas Biological Survey, and Kansas Applied Remote Sensing Program

Using GIS for Wind Resource Planning in Kansas



Objective:

The Kansas Wind Resource Planner (WRP) was designed to serve as a guide for the siting of wind farms, transmission lines and other landscape altering structures by showing potential wind resource data and general areas of conservation sensitivity. Research has shown that the actual footprint of wind farms is small compared to the large area of avoidance around these facilities by sensitive grassland birds (like the prairie chicken). As a result, the siting of wind power facilities on intact native prairie appears likely to cause avoidance or complete abandonment of otherwise suitable habitats by some grassland birds and is therefore generally discouraged where possible. The data in the WRP is an accumulation of data available from different organizations and agencies across the state and is presented as a free on-line resource for organized, assessable, and unbiased data to help people make informed decisions.

Avg. wind speed meters/sec
High : 9.4
Low : 6.2

Electric lines Voltage
0 - 100
101 - 161
230
345

Kansas wind farms Project status
Existing (7)
Proposed (42)
Under Construction (2)
Wind farm buffer (0.5 mile)
Wind turbines

Prairie chicken range
Heart of the Flinthills
Sensitive species
Intact grasslands
Managed lands
Playa lakes
Highways (+ 0.5 mile buffer)

0 10 20 40 60 80 100 Miles

www.kars.ku.edu/maps/windresourceplanner

Data used includes:

Potential wind power - Estimated wind resources at 100-meters as modeled by AWS Truewind

Kansas wind farms - Status and location from SPP and KS Energy Information Network Last updated Oct, 2008

Transmission lines - From DASC, as compiled from KCC based on permit applications

Prairie chicken range - Current range as delineated by expert opinion. Last updated Sept, 2008

Heart of the Flinthills - Region defined by Gov. Sebelius as an area where wind development is discouraged in an effort to protect these large tracts of tallgrass prairie

Sensitive species - From the Kansas Natural Heritage Inventory

Intact grasslands - large parcels of intact (untilled) grasslands, from The Nature Conservancy

Managed lands - Kansas stewardship data includes lands managed by federal and state agencies, military, local governments, universities, and NGO's

Playa lakes - Probable playas were identified through from three data sources: SSURGO soils data, National Wetlands Invenotry (NWI) data, and imaged-based analysis by Playa Lakes Joint Venture (PLJV)

KANSAS WILDLIFE & PARKS

KANSAS BIOLOGICAL SURVEY

KARS
Kansas Applied Remote Sensing Program