MAGIP VECTOR

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GIS Project Update – Ecosystem Research Group

By, Melanie Smith

Ecosystem Research Group (ERG) is a private environmental consulting company based in Missoula. We provide consulting services to federal, state, and local agencies, NGOs, and private clients.

Over the last year we facilitated the Beaverhead-Deerlodge Partnership Strategy, an agreement between five timber companies (led by Sun Mountain Lumber) and three conservation groups (Montana Wilderness Association, National Wildlife Federation, and Trout Unlimited). The Partnership Strategy is a progressive vision for the Beaverhead-Deerlodge National Forest Plan, currently under revision. ERG's role involved a large number of planning issues including NEPA, wildlife, forestry, fire, wilderness, and roadless areas. GIS and spatially-explicit landscape simulation modeling were used extensively to analyze these issues, to compare management scenarios, to provide best available science for the NEPA process, and to create maps and graphics depicting the Partnership Strategy, which were widely distributed for press conferences and publications.

In August we completed an analysis of wildlife response to gas well development for the Pinedale Field Office of the BLM. The species studied were numerous raptors, sage grouse, mountain plover, and prairie dogs. This study was almost entirely GIS-based. We used time series analysis of the proximity of breeding/nesting grounds to gas wells to quantify the tolerance of individual species to gas well development on the Pinedale Anticline in Wyoming. Results of the study were used to recommend increased no-surface-occupancy buffers for these species, better data management practices, future studies and monitoring, and applications of suggested studies.

This spring ERG completed the Elkhorn Vegetation Study. This was a three-year study of elk and cattle forage utilization in the Elkhorn Mountains south of Helena. The study included extensive field sampling and use of GIS to map hot spots for elk-cattle grazing overlap. ERG also employed spatially-explicit landscape modeling to quantify the historic range of variability of the study area. This project resulted in management recommendations for better grazing management strategies.

Some of our other recent projects involving GIS include: natural resource conservation planning for the South Dakota Department of Agriculture, noxious weed mapping for the Lolo National Forest and wetlands mapping for Malmstrom Air Force Base.

Melanie Smith is an Environmental Scientist and the GIS Director for ERG in Missoula. She is completing her master's degree in Geography from the University of Montana, for which she created a dynamic spatial model that simulates habitat interactions of nesting northern goshawks. She can be reached at msmith@ecosystemrg.com.