

EXECUTIVE SUMMARY

Vavra, Willis, and Sheehy (1999) note in their paper on wildlife/livestock conflicts that while competition between herbivores may appear obvious, “relationships between herbivores may not necessarily be competitive and may even be beneficial.” The question of competition and/or conflict between domestic livestock and wild ungulates in the Elkhorn Mountains resulted in the creation of a cooperative Working Group. The Elkhorn Working Group (EWG) is a cooperative effort of working ranchers, sports enthusiasts, conservationists, local governments, and agencies whose charge is to provide management recommendations on elk/livestock strategies within the Elkhorn Cooperative Management Area (ECMA). The enabling Memorandum of Understanding (MOU) specifically notes it is “An Agreement on Working Together,” its stated purpose being “continued cooperation and coordination by all involved agencies, local governments, and the public are essential to successful management of the Elkhorns.”



Figure ES-1 Sheps Gulch in the Elkhorn Mountains

This report is the result of the forward-looking efforts of the EWG to determine the condition of the vegetation in the Elkhorns. Ecosystem Research Group (ERG) has prepared this report consistent with the four tasks noted in the December 2003 Request for Proposal (RFP) for Phase I, “Existing Information Summary and Interpretation.” The four tasks are: 1) assemble and evaluate existing information, 2) map preparation and data interpretation, 3) trends, and 4) data validity and recommendations.

The debate regarding the Elkhorns offers an excellent opportunity to better understand the benefits of public land and private land partnerships.

Conservation Biologist Dr. Richard Knight argues in *The Geographical Review* that threats to biodiversity in the western United States are becoming more pervasive and are directly attributable to the conversion of productive private ranch lands to exurban developments (Maestas et al., 2001). On many levels we know this to be true. We need to look no further than the Bitterroot Valley in western Montana to see that the loss of working landscapes negatively impacts wildlife habitat. One of the most economical ways of preserving biodiversity is to keep ranchers on the land and promote those working

landscapes. Recent research (Maestas, et al., 2001) analyzed the differences in native plant communities between working ranches, ranchettes, and reserves. The data showed biodiversity is better served on working ranches than on reserves and exurban development property. Furthermore, the data did not support the notion that nature reserves are the best way to maintain rangeland ecosystems (Maestas et al., 2001).

This report provides an independent assessment of existing vegetation and wildlife information available for the Elkhorns. There is a large body of information available. As part of the information collection process ERG staff contacted agency specialists, ranchers, conservationists, and the public to request information and data. We reviewed agency files, literature, and private and anecdotal sources. Geographic Information System (GIS) data came from agencies and the State library. There is some overlap in the report due to the complexity of the data and items in common between sections.

KEY FINDINGS

- The vegetation data from the Elkhorns is extremely variable, from photo points, to canopy coverage, to frequency, to composition, etc. Plants have been grouped into desirable and undesirable, with designations changing every couple of years. At other times they have been portrayed by genus and species. Because of this, the trend of the vegetation communities is difficult to establish with certainty. The later plant data generally shows similarities with conditions found in the 1960s, with trends shifting up and down in the 1970s and 1980s. Current condition and trend decreases may be due to encroachment. Further data analysis might reveal some qualitative changes in plant community composition.
- It may be problematic that managers use range condition to guide livestock management decisions if they don't have the measurements to document how range condition has changed. The fact that the theoretical concepts for range management have changed from the classic Clementsian ecological fundamentals to state and transition models further complicates using component measurements of condition.
- Both the Forest Plan (USFS, 1986) and the Integrated Resource Management Analysis (IRMA) (USFS, 1989) emphasized that range condition should be maintained or improved. In both of these documents it is also stressed that livestock grazing should be compatible with or optimize elk winter range. Currently, the United States Forest Service (USFS) is using range condition associated with the "secondary succession model." This method has received significant criticism over the last 15 years. For the Elkhorns, a change in range condition methodology could be significant. The increase in encroachment of unwanted species (e.g., big sagebrush [*Artemisia tridentata*]) is more associated with a reduction in the fire regime than with grazing, although, overall, herbivory may increase the rate of encroachment. For these sites the state-transition-model would show that a lack of fire would result in a relatively stable state with high coverage of mountain big sagebrush and would not "transition" to "grassland" without fire (livestock grazing may not be the driving factor). Stringham et al. (2001) believe that "state-and-transition models hold great potential to aid in understanding rangeland ecosystems' response to natural and/or management-induced disturbances by providing a framework for understanding potential ecosystem dynamics." We believe the development of state-and-transition models for ecological sites for the Elkhorn study area would improve the ability of land managers to assess changes and possibly determine treatments to alter states to more desirable communities for area objectives.

Ultimately, the data and interpretations in this report will give the EWG a better understanding of the vegetation communities and the grazing animals that feed on the plants. Making recommendations is difficult due to the inherent biological variability of vegetation communities coupled with climatic fluctuations.

TOC

EXECUTIVE SUMMARY ES-1
 Key Findings ES-2
Figure ES-1 Sheps Gulch in the Elkhorn Mountains ES-1