Monitoring the Effects of Livestock Grazing on Stream Channels and Streamside Vegetation Using BLM's Multiple Indicator Monitoring (MIM) Protocol

TImothy A. Burton
6055 Murphy Rd
Kuna, ID 83634
Telephone: 208-861-3898
Email: rmsmim@sitestar.net

In 2011 the Bureau of Land Management published Technical Reference 1737-23, Multiple Indicator Monitoring (MIM) of Stream Channels and Streamside Vegetation. This monitoring protocol was developed to provide information necessary for managers, landowners, and others to adaptively manage riparian-dependent resources. Indicators and procedures in the MIM protocol were selected and developed primarily to monitor impacts of livestock and other large herbivores on wadeable streams(usually less than 10 m wide), although a modified version applicable to large rivers has recently been developed. Through 6 years of testing and 3 years of full application, this approach has been found to minimize subjectivity while maintaining a reasonable level of precision and accuracy. Because of its' objectivity and efficiency, the MIM has found wide application across the western United States. By integrating annual grazing use and long-term trend indicators of condition, it is now possible to investigate causes and effects of grazing influences and to adjust management actions accordingly. Available with the MIM protocol is a Data Analysis Module designed to fully contain raw data and compute metric results in a single file for each monitoring event. In addition, the MIM Statistical Analysis Module allows for analyzing multiple monitoring events or monitoring sites to assess trends, compliance with monitoring criteria, and achievement of monitoring objectives. The MIM has been found to be most effective in relatively low-gradient (less than 4 percent), perennial snowmelt-dominated and spring-fed streams in the Western United States and is most applicable to those systems. Typically, streamside riparian and wetland vegetation is a critical component of these types of streams for maintaining the condition and function of processes that influence stream channels and adjacent riparian vegetation.