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Riparian Area Multiple Indicator Monitoring

The purpose of this project was to test the effects of livestock management on a riparian area. It was done alongside the Forest Service, through the Forest Service's Science and Engineering Apprenticeship Program. It is a multi-year project (this being its second year).

In 2011 and 2012 baseline data of vegetation and stream health on Big Dominguez Creek was assessed. Data showed the area was impaired and needed management; this led to the construction of targeted fencing and water developments in 2011. The Multiple Indicator Monitoring (MIM) protocol was used to evaluate pre- and post-grazing conditions of the riparian area. Data for short-term (annual) indicators including: stubble height, stream bank alteration, and woody species use by cattle and elk was collected at the two reaches. This was done once each pre- and post-grazing season.

The data showed that grazing by cattle reduced the stubble height of stream-side vegetation and altered stream bank conditions in both reaches; however, these changes were an acceptable amount. It also showed that 31-51% of the woody plants, specifically willow, had been grazed by elk and cattle, which is above the acceptable range.

The data suggests that cattle do have a negative effect on a riparian area. They also display that targeted fencing alone does not improve the area's health. However the fencing, along with other management implications including using the pasture earlier in the year, before willow becomes palatable to grazing animals, would allow plants to grow to a height sufficient to resist grazing by cattle and wildlife.