



Comparison of Active & Historic Livestock Grazed Sites on the Colorado Plateau

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Glen Canyon National Recreation Area (NRA) has a unique grazing program where livestock are jointly managed according to Bureau of Land Management administrative procedures and National Park Service resource guidelines. To better understand livestock grazing effects on the park's arid and semiarid landscapes and use site-specific data in park management decisions, the NPS collected and analyzed data of actively grazed sites in Glen Canyon NRA. These sites provide baseline data for Glen Canyon NRA. The sites were then compared to similar ecotypes that were historically grazed and fall outside park boundaries. Data from these sites were collected by the U.S. Geological Survey using the same methods. Sites were selected using the existing soil survey of the park and UTM coordinates. Data was collected from ten study sites. Data collected included: soil stability, basal and canopy gap, line point intercept, qualitative rangeland health, species richness, and forage and exotic plant density and frequency. To compare NPS data with USGS data on historically grazed sites, eighteen biologically meaningful factors were selected to convey meaningful indices that would be most relevant in a park management context. Twelve of the selected biological factors showed a decline compared to historically grazed sites, eight of which were statistically significant. The other six factors increased compared to historically grazed sites, four were statistically significant. This study provided managers clearer direction for determining the factors that need to be measured for livestock management and will ultimately aide resource managers in making future livestock management decisions in Glen Canyon NRA.

2009. 62nd Society for Range Management Annual Meeting. Paper No. 65-1.