ABSTRACT

Rangelands are vital for wildlife conservation and socio-economic well-being, but many face widespread degradation because in part of poor grazing management practices. Planned grazing management, typically involving time-controlled rotational livestock grazing, is widely touted as a tool for promoting sustainable rangelands. However, real-world assessments of its efficacy have been lacking in communal pastoral landscapes globally, and especially in Africa. We performed landscape-scale assessment of the effects of planned grazing on selected vegetation, wildlife, and cattle attributes across wide-ranging communally managed pastoral rangelands in northern Kenya. We found that planned grazing enhanced vegetation condition through a 17% increase in normalized difference vegetation index, 45–234% increases in herbaceous vegetation foliar cover, species richness and diversity, and a 70% reduction in plant basal gap. In addition, planned grazing increased the presence (44%) and species richness (53%) of wild ungulates and improved cattle weight gain (>71%) during dry periods when cattle were in relatively poor condition. These changes occurred relatively rapidly (within 5 years) and despite grazing incursion incidents and higher livestock stocking rates in planned grazing areas. These results demonstrate, for the first time in Africa, the positive effects of planned grazing implementation in communal pastoral rangelands. These improvements can have broad implications for biodiversity conservation and pastoral livelihoods.