

## Abstract

Accurate and efficient management in each region based on a quantitative and qualitative overview of the features of the plant, as well as knowledge of species relationships with each other and environmental factors. The aim of this study was to determine the relationship of vegetation parameters of invader species *Cirsium haussknechtii* with some Habitat Indicators and grazing management in Aliabad rangeland of Malayer city. After the field inspection, region map specified and were overlapped by using the slope and aspect maps, homogeneous units maps using GIS software, and preparing to take sampling of the soil and species cover. sampling was done Systematic- randomize method using from two perpendicular transects on length of 50m. 10 plot on length 3m<sup>2</sup> (1.5×2) were taken in each transect. in each plot, were recorded Information related to the cover, frequency, density, production and concomitant species. For investigation of the physicochemical factors of soil samples from each plot were taken from two the depths of 0-15 cm and 15-40cm and soil factors such as pH, Ec, OC, CaCO<sub>3</sub>, texture soil, moisture percentage, Ca and mg were measured in the laboratory. Also rangeland management was assessed by using 17 described indicators of rangeland health. Analysis of environmental factors and plant characteristics of the studied species was performed using variants two-way ANOVA and Detrended Correspondence Analysis (DCA) and Redundancy Analysis (RDA). The results showed that only some of the factors such as pH, soil texture and aspect with percentage cover of the species showed a positive correlation and species density, with soil texture, soil moisture content and soil mg positive correlation that the contribution of soil texture was more than other soil factors. Results of this study demonstrated that, also other factors such as grazing management, proximity to water sources, livestock grazing intensity and rest location and human intervention, such as road construction and operation of mines on the presence and distribution of the species under study are effective.

**Keywords:** Habitat characteristics, Grazing management, Invasive species, *Cirsium haussknechtii*, Redundancy Analysis, Range Malayer



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**The Relationship of Vegetation Parameters of Invader  
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Habitat Indicators and Grazing Management in  
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