

## ***Interactive comment on “The effects of grazing on the spatial pattern of elm (*Ulmus pumila* L.) in the sparse woodland steppe of Horqin Sandy Land in Northeastern China” by M. Zhang et al.***

### **Anonymous Referee #1**

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In my opinion, this work is a good approach to the relationship between grazing and spatial distribution of the elms. In addition, this work provides a basis for the management of such communities.

I recommend publish this work after some improvements. I hope authors find the comments constructive and suitable. I appreciate the authors clarify my doubts.

The last sentence of Introduction: ...Our findings significantly contributed to the understanding of the formation of spatial pattern of elm population in sparse woodland steppe. ... sounds smug or conceited. I recommend the authors to modify it. For example: ...We consider that our findings could contribute to the understanding of the

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formation of spatial pattern of elm population in sparse woodland steppe. ...

Study area: I advise authors to include a figure with two maps of the study area, the first one more general and the other one more detailed. It will help the readers from other parts of the world.

Study area, climate: Where did climate data come from? Did they come from a weather station near the plots? Period of data collection, how many years have they been collected?

Study area, climate: Authors refer -14°C as the mean daily temperature in January. Is it true? Maybe -14°C is the mean minimum temperatures. Could authors clarify this doubt I have?

Study area, plots description: There is only a plot per replicate (grazed vs not-grazed). It is a pity; the power of the study diminishes.

Study area, plots description: Are the fenced and grazed plots completely comparable? Have both plots the same orientation, soil characteristics, soil depth, stoniness, microtopography, etc.?

Study area, plots description: Has the fenced plot always been fenced? Has it never been grazed? Or, how long has it not been grazed?

Data collection and analysis: Why authors thought that 10 cm DBH is enough to avoid the potential effect of inter-specific competition? Is this thought based solely on differences in size?

Data collection and analysis: What is the GPS accuracy?

Results. Number of elm trees in grazed and fenced plots: Surfaces of grazed and fenced plots are very different (44.2ha and 10.5ha, respectively). As a consequence, I think that total number of elm trees is not a good indicator. I advise authors to use densities.

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Discussion:

At the end of the first paragraph, authors wrote: . . . This demonstrated that the distance between random and aggregated patterns was larger in the fenced plot than that in the grazed plot. . . I advise authors to change demonstrated by indicated or suggested.

I am afraid authors use uniform pattern and random pattern as synonyms, in both cases as opposed to aggregated pattern. In lines 16, 18, 23, 24 and 26 of page 3346, and in line 4 of page 3347, all of them in discussion, authors refer to uniform pattern. In many other cases along the article, authors refer to random pattern. I appreciate the authors clarify my doubt.

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Interactive comment on Solid Earth Discuss., 7, 3339, 2015.

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