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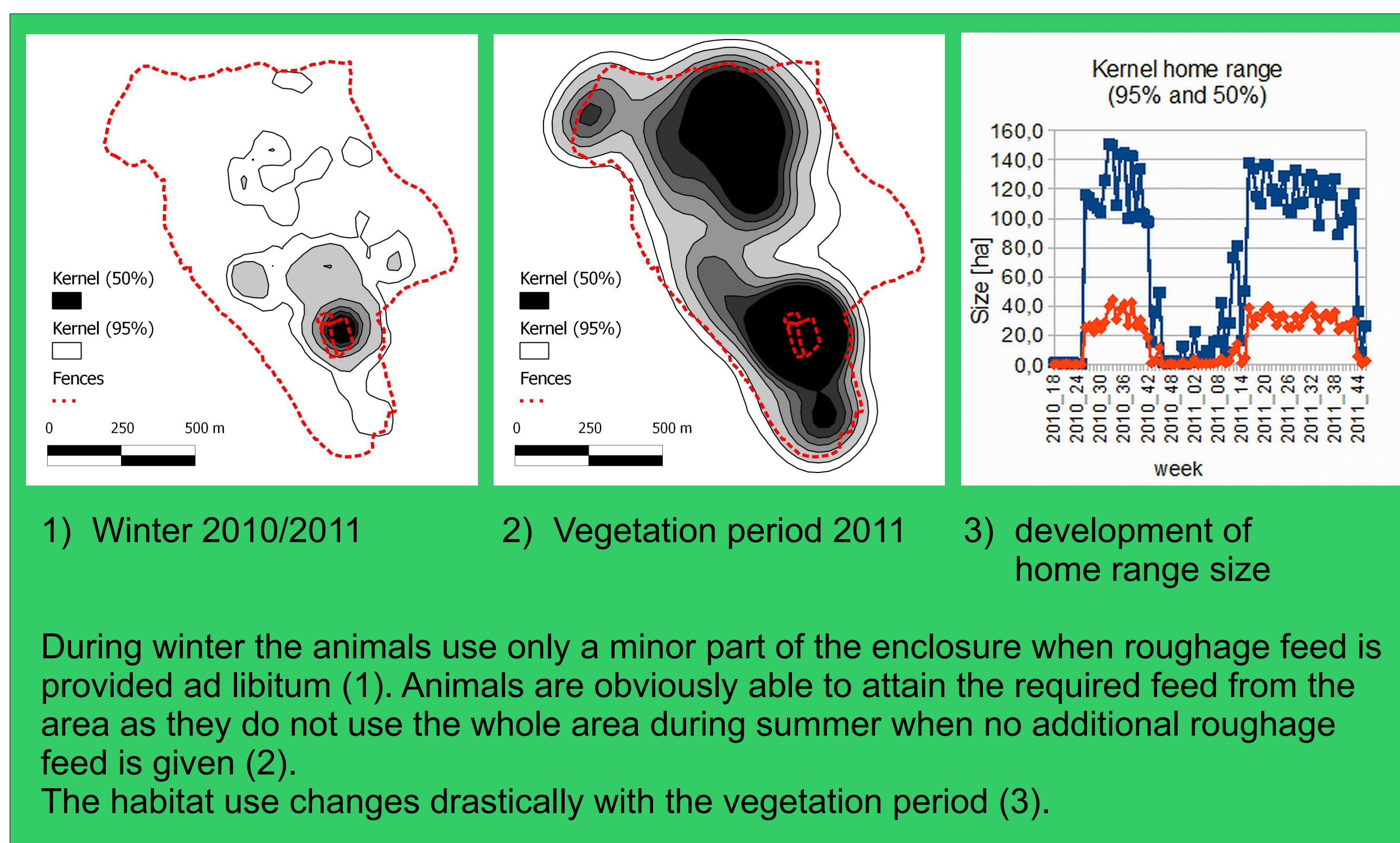
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Habitat use of *Bison bonasus* in a low mountain range enclosure

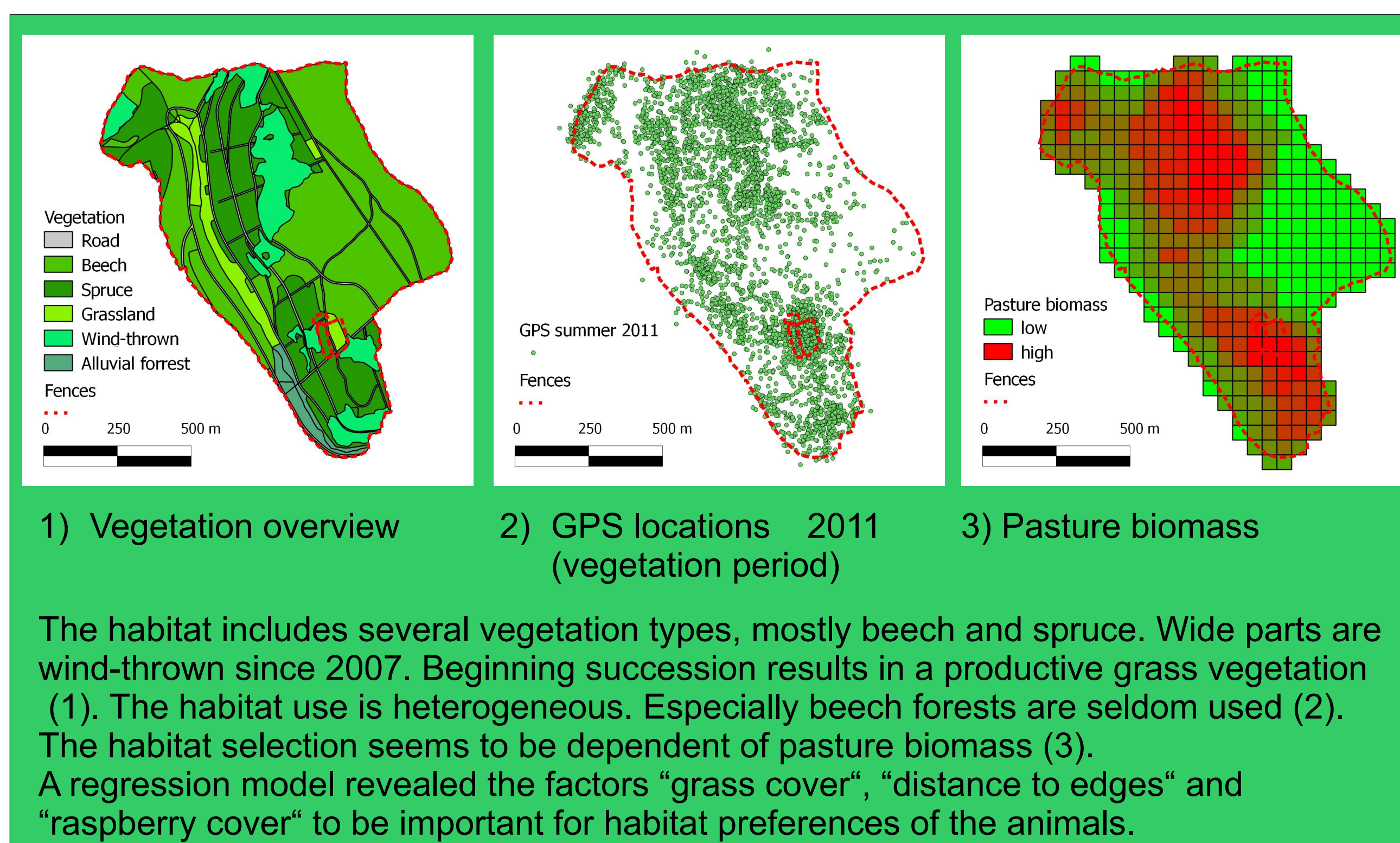
In the E+E-Project „Wisente im Rothaargebirge“ (Germany, NRW), a herd (1,6,0) of European bison is managed in an 88 ha area in a low mountain range habitat with beech, spruce and alder forest, grasslands and creeks. The animals are prepared for the reintroduction as a free-living herd in an intensively used working forest.

How do the animals use the enclosure?



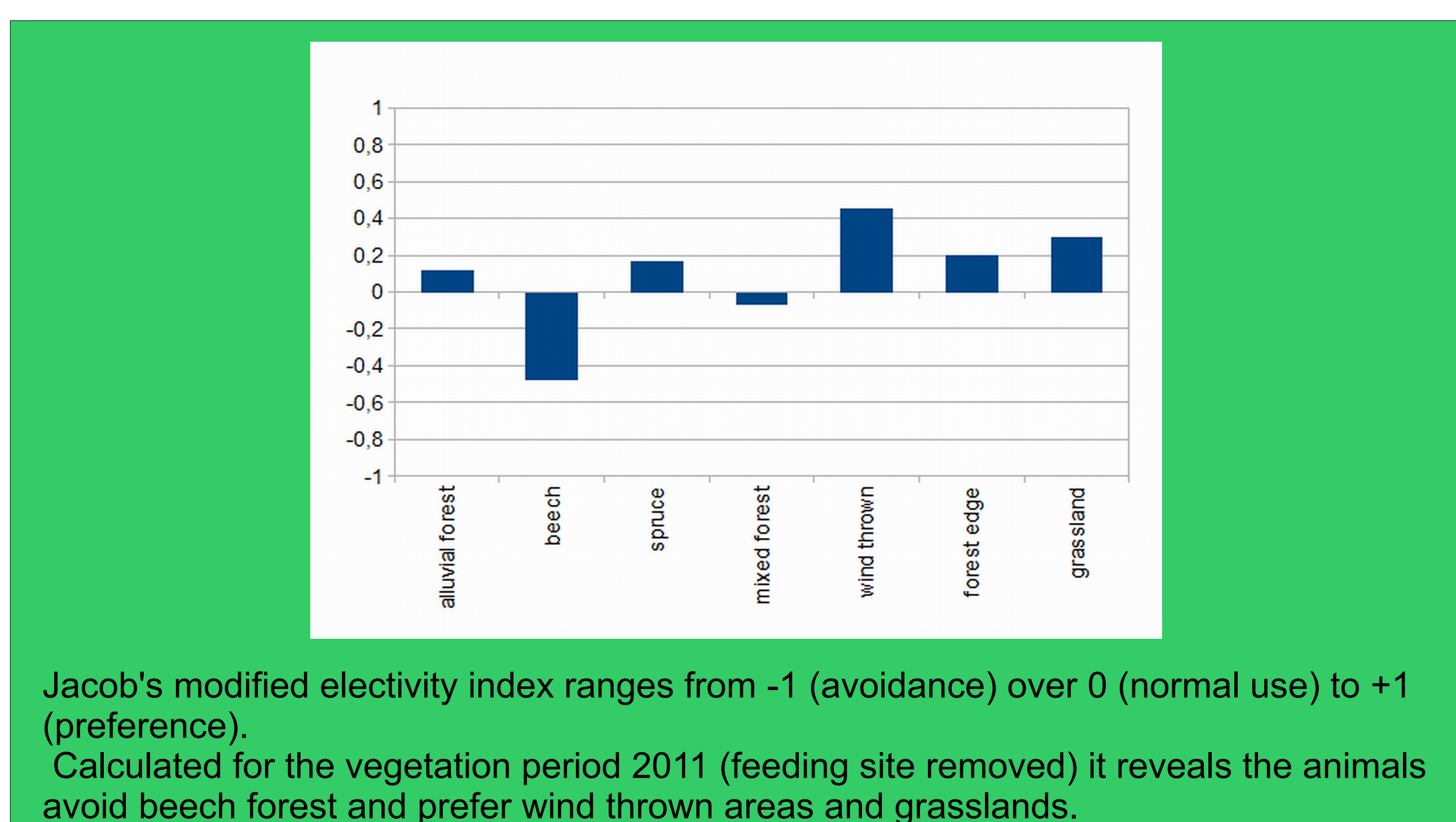
An 88 ha enclosure of working forest is suitable for a herd of European bison regarding the nutritional and ethological requirements during the vegetation period.

What are the main habitat factors the animals select for?



European bison select for the environmental factors "grass cover", "distance for forest-edges" and "raspberry cover".

What are the preferred vegetation types?



The quantity of pasture is due to vegetation types. The nutritional requirements are crucial for the habitat preference of European bison and most important factors shaping home ranges.

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In the E+E-Project „Wisente im Rothaargebirge“ (Germany, NRW), a herd (1,6,0) of European Bison (*Bison bonasus*) is managed in an 88 ha area in a low mountain range habitat with beech, pine and alder forest, grasslands and creeks. The animals are prepared for the reintroduction as a free-living herd in an intensively used working forest.

We investigated habitat use, foraging behaviour and habitat preferences of the animals. We measured the home range size during 19 month using minimum convex polygone (MCP) and kernel with fixed bandwidth (kernel h_{ref}), as well as the factors that shape the habitat use. As the animals do not use the whole area during summer and are able to attain their required food, we conclude that an 88-ha enclosure is suitable for this herd regarding the nutritional and ethological requirements during summer. As additional feeding is provided during winter, the animals limit their home range size to a core area of $< 1,1$ ha.

We also tested for correlations between habitat use and environmental factors. We found the strongest correlations between ground coverage by grasses and total grass biomass available. The animals avoided beech forests, prefer spruce forests and open areas as well as the respective shrub habitats. We found no correlations with the overall shrub-coverage, although the animals feed on several taxa.

We additionally categorized the area in eight habitat types and calculated the modified Jacob's index for each season (vegetation-time versus non-vegetation-time). This revealed the animals avoid beech forests and prefer spruce forests, storm damaged areas and grasslands. All other habitat types are used at random. The feeding site used frequently in both seasons. This leads to the conclusion that the nutritional requirements are crucial for the habitat preference of *Bison bonasus* and most important for shaping their home ranges.