

A baseline and goal for large herbivore densities

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Large herbivores have characterized ecosystems for millions of years, but many species have disappeared in the last 130.000 years. Today's wildlife is depauperate, notable in large species and persists at low densities even in national parks and reserves. The evolutionary baseline is a diverse mammal fauna including notably large species of herbivores, such as elephants and rhinos even in European ecosystems. In acknowledgement of this baseline, rewilding seeks to restore larger herbivore processes in ecosystems by reintroducing missing large herbivores and minimizing human management for more self-sustaining ecosystems. The density of large herbivores is obviously key to their ecosystem impact and in natural ecosystems densities would follow the carrying capacity or food availability in the ecosystem. In practice, many rewilding projects in Europe have reintroduced meso-herbivores such as cattle and horses and none of the mega-herbivores. Moreover, predators are often also lacking and the rewilded horses and cattle are legally domestic animals and consequently, regulated to avoid starvation. We have worked on estimating the biomass of large herbivores at natural densities and moreover, how this biomass is distributed across species' size classes. These new perspectives can inspire restoration goals for more natural large herbivore processes and inform management decisions.