**The positive and negative impact of grazing on biodiversity of grasslands**

Grasslands support multiple ecosystem services and functions, including biodiversity. Managed grazing for the production of animals for meat, milk and other animal products is one of the most extensive forms of land use on the planet and covers around a quarter of the global land surface. Grazing impacts are recognised as being strongly influenced by factors such as grassland type, species of animal grazing, and stocking rate. Both overgrazing and undergrazing can have enormously damaging effects on botanical composition and related habitat value; so how do we get the balance right? Livestock Units (LUs) are a commonly used means by which the impact potential of different grazers is quantified, and LUs commonly underpin grazing prescriptions imposed as part of agri-environment schemes and similar initiatives seeking to improve and/or preserve biodiversity. However, for the most part these have been calculated based on crude estimates of the comparative energy requirements of very broad categories of livestock (e.g. dairy cow, beef cow, sheep) and do not take into account key factors such as the type or quality of grassland being grazed, within-breed variations in body size or hardiness, physiological status (e.g. pregnant, lactating, growing), or environmental challenges. It is therefore perhaps unsurprising that the majority of grazed ecosystems in the UK and beyond remain in poor condition. Major improvements to LUs and related prediction models are urgently required if grassland-based livestock production is to effectively support achieving national and international targets of restoration of 30% of degraded ecosystems by 2030.