

A Pilot Scale Long–Term Experimental Study on the Effects of Grazing and Gap Creation on Burren Grassland Dynamics: Implications for Conservation

Moles R., Breen J., O'Regan B.

Biology & Environment: Proceedings of the Royal Irish Academy Volume 105, Number 1 / 2005 pp. 15-32

<http://ria.metapress.com/content/w554j1t502752363/?p=95229c7852f646908768e5e715ce38a6&pi=2>

Abstract

Burren grassland is an important habitat for biodiversity conservation, but studies to date have not provided sufficient scientific understanding of vegetation dynamics to inform selection of appropriate management prescriptions. This paper reports on a pilot scale study on a small grassland patch on limestone pavement near Mullach More in the Burren National Park. Through experimental manipulation, it examines the effects of grazing and bare soil gap creation on vegetation dynamics and reproductive success over six years, with a focus on temporal changes in cover, species richness, flowering rates, turnover and mobility. Cessation of grazing resulted in very marked frequency reductions for most species, but increases for some grasses and increased flowering frequency in some forb species. Gap creation resulted in vegetation change that persisted for at least two years under ungrazed treatment, but for six years in grazed sward. Soil depth decreased under grazing but increased under ungrazed treatment. The grassland patch had attributes suggestive of both equilibrium and non–equilibrium vegetation dynamics. As the small study area selected may not be fully representative of the markedly heterogeneous Burren landscape, this paper does not arrive at conclusions in relation to all Burren grasslands and their conservation, but rather identifies some attributes important in informing prescription selection that require further testing at larger scale.