Assessing the potential for recovery of degraded montane heaths

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Racomitrium heath is an important semi-natural montane community. The condition and extent of this habitat, however, is in decline due to increased atmospheric nitrogen pollution and grazing pressure. Previous research, including nitrogen addition experiments and grazing exclosures, has shown the sensitivity of the dominant moss *Racomitrium lanuginosum* to these factors, resulting in disruption to N-metabolism, loss of cell integrity, reduced growth and ultimately shoot death. Conservation agencies have a duty to preserve British *Racomitrium* heaths but require more information in order to do this effectively. The habitat's potential for recovery is a fundamental concern. Would a reduction in grazing pressure be sufficient to initiate recovery or will the effects of atmospheric pollution and climate change limit its effectiveness? This project aims to assess the current condition of UK montane heath in relation to similar European sites, by comparing vegetation composition and *Racomitrium* health (in-situ growth, tissue chemistry and physiology). Field manipulation experiments (grazing exclosures and reciprocal transplants) will aid in the evaluation of recovery potential, as will controlled environment experiments aimed at assessing the relative impacts of climate and N-deposition. It is hoped that this project will contribute to the production of guidance notes for the restoration and management of montane moss-heath and provide further evidence to support the continuing refinement of critical loads of nitrogen deposition.