Do forest scale and ownership matter for sustainable multifunctional forestry? A case study of forest management in the Cairngorms region of Scotland

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Scottish forestry policy promotes integrated multifunctional forestry; however, a variety of factors can constrain multifunctional forestry, particularly in upland areas. Management objectives for private forests are also not always widely known and the potential impacts of government policy on the delivery of multifunctional forestry have not been explored. Furthermore, the effects of landownership on forest management are unclear. The key aim of this research was to evaluate how forests in the Cairngorms are being managed, and to determine the main constraints and opportunities to multifunctional forest management. A forest management typology was developed which identified three key management themes: sustainable multifunctional management; restricted functionality forestry; and dual function management. No consistent relationship was evident between landownership type and forest management functionality. A link was apparent between species and structural diversity and forest functionality. Overall, ‘social’ objectives were relatively weak, particularly for private forests, while ‘environmental’ objectives were consistently strong and ‘productive/economic’ objectives varied in importance. The themes of constraint and opportunity were: spatial fragmentation and integration; forestry markets; bureaucracy and policy integration; public pressure and public support; and unpredictability and forest resource resilience. Many constraints result from temporal, spatial and organizational scale mis-matches between social and natural systems. The matching up of scales at the management, organizational and market levels and the treatment of forests as complex social-ecological systems is recommended. Further recommendations include: further land management integration; increased policy regionalization; timber market localization; and enhanced long-term planning.