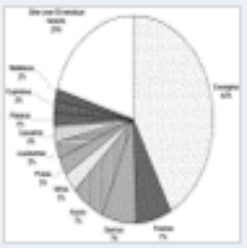

Abstract

At the beginning of the 1900s, the Canberra plain was largely treeless. Graziers had carried out extensive clearing of the original trees since the 1820s leaving only scattered remnants and some plantings near homesteads. With the selection of Canberra as the site for the new capital of Australia, extensive tree plantings began in 1911. These trees have delivered a number of benefits, including aesthetic values and the amelioration of climatic extremes. Recently, however, it was considered that the benefits might extend to pollution mitigation and the sequestration of carbon. This paper outlines a case study of the value of the Canberra urban forest with particular reference to pollution mitigation. This study uses a tree inventory, modelling and decision support system developed to collect and use data about trees for tree asset management. The decision support system (DISMUT) was developed to assist in the management of about 400,000 trees planted in Canberra. The size of trees during the 5-year Kyoto Commitment Period was estimated using DISMUT and multiplied by estimates of value per square meter of canopy derived from available literature. The planted trees are estimated to have a combined energy reduction, pollution mitigation and carbon sequestration value of US$20–67 million during the period 2008–2012.

Keywords

Carbon sequestration; Urban forest; Tree asset management; Forest value

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Figures and tables from this article: