

Landscape level floral biodiversity characterisation and estimation in shendurney wildlife sanctuary using remote sensing and gis techniques

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Article Chronicle :

Received :

02.09.2013;

Revised :

22.10.2013;

Accepted :

19.11.2013

Key Words :

Biodiversity,
Protected area,
Remote sensing, GIS.

SUMMARY : Shendurney Wildlife Sanctuary, part of Agasthyamalai Biosphere Reserve is one of the richest areas of biodiversity in the Western Ghats, the biotic richness and distinct biographic features making it an ideal gene pool reserve. Shendurney Wildlife Sanctuary has substantial natural vegetation ranging from the southern secondary moist mixed deciduous forest to southern subtropical hill forest. Remote sensing, with its advantage of spatial, spectral and temporal availability of data covering large and inaccessible area within short time has made it a very rapid and cost effective tool in assessing, monitoring and conserving our natural resources. With an aim of assessing the floral biodiversity of the sanctuary at the landscape (vegetation class) level, remote sensing based supervised classification technique was carried out on IRS P6 LISS III digital imagery. Quantification of each vegetation class was then carried out on the classified image using the tool of GIS which was substantiated with extensive ground survey. The results indicated that more than 40% of the vegetation in Shendurney Wildlife sanctuary falls under the semi-evergreen category followed by evergreen vegetation which comes to 30 % of the total area. Other classes identified include reed brake (3.37 %), grass land (3.30 %) and water-bodies (10.22 %). A fraction of 0.1 % and 2.3 % of the area depicted cloud cover and shadow regions in the imagery, respectively. A Kappa analysis was also performed to estimate the thematic accuracy of the classified image, using the Kappa co-efficient, which is a measure of agreement between classification and verification.

HOW TO CITE THIS ARTICLE : Asok, V. Smitha and Sobha, V. (2013). Landscape level floral biodiversity characterisation and estimation in shendurney wildlife sanctuary using remote sensing and gis techniques. *Asian J. Environ. Sci.*, **8**(2): 98-100.

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