STRUCTURE AND DIVERSITY OF TREE SPECIES IN NATURAL FORESTS OF KUMAUN HIMALAYA IN UTTARAKHAND

L.S. Lodhiyal1, Neelu Lodhiyal2 and Bhawana Kapkoti3

1Department of Forestry and Environmental Science, D.S.B. Campus, Kumaun University, Nainital
2&3 Department of Botany, D.S.B. Campus, Kumaun University, Nainital
E-mail: lsjodhial@yahoo.com

Abstract: Present study deals with density, basal area, population structure, species diversity and concentration of dominant of natural forests in Lohaghat of Champawat district in Kumaun Himalaya, Uttarakhand. The data were collected from each forest for different six classes such as seedling, sapling, young tree, pole size tree, mature tree and old tree. Soil bulk density was 1.02-1.18gcm-3. Soil porosity, water holding capacity and soil moisture ranged from 41.8-48.5, 56.4-65.5 and 27.1-32.2 percent respectively. The soil texture was in order: sand (42.6-47.3%)>silt (31.6-34.3%)>clay (21.1-23.1%). Soil pH and soil carbon ranged from 6.2 to 6.8 and 6.2 to 6.8 percent. Density of seedling sapling and tree ranged from 270 to 1790, 365 to 1040 and 920 to 1345, respectively. Species diversity in each category was 0.757-1.500 for tree, 0.950 to 2.050 for seedling and 1.000 to 1.810 for sapling. The good regeneration structure depicted by Rhododendron arboreum in site 1, Myrica esculenta, Cedrus deodara and Pinus roxburghii in site-2, Myrica esculenta, Prunus cerasoides and Pinus roxburghii by site-3, while poor regeneration was depicted by Quercus leucotrichophora, Myrica esculenta and Pinus roxburghii in site-1, Quercus leucotrichophora in site-2 and Cedrus deodara and Pinus roxburghii in site-4. However, fair regeneration was shown by Cedrus deodara in site-1 and Quercus leucotrichophora in site-3. The Quercus leucotrichophora seedlings were less in number than other tree species. Decreasing regeneration pattern of Quercus leucotrichophora in each site indicated that increased anthropogenic pressure on natural forests species for fuel and fodder may be one of the reasons of poor regeneration in each studied forest.

Keywords: Species diversity, population structure, seedlings, saplings, tree size class, Kumaun Himalaya

REFERENCES


