

Abstract

Search for the most appropriate forest management in the period of increasing frequency of windstorm and bark beetle outbreaks is a big challenge for foresters and mainly for managers of protected areas. A better knowledge of effectiveness and ecological consequences of applied methods is necessary for good management of forest ecosystems.

The ecology of European spruce bark beetle, natural disturbances occurring in Middle European forests and post-disturbance measures are reviewed in the first part of this master thesis. Analysis of data about the spatial distribution and dynamics of bark beetle spreading in one of the forest districts of the Šumava National Park and the data about forest regeneration are published in the second part. Own field records together with data from the forest management plan and maps with records of occurrence of the bark beetle infected trees in study area between 2000 and 2006 were used in this study.

The significant correlations between occurrence of the bark beetle infected trees and their occurrence in previous years were found. The active management (cutting down and removing of bark beetle infected trees) can't eliminate the bark beetles outbreak. Moreover, the active management causes the fragmentation of canopy and increases the risk of further degradation of the forest. Additionally, a lower number of seedlings together lower biodiversity of natural regeneration were found in plots with the active management. Passive, i.e. non-intervantian, management is recommended as more appropriate for ecologically valuable parts of protected areas.