

Rouvinen, S. & Kuuluvainen, T. (2001): Amount and spatial distribution of standing and downed dead trees in two areas of different fire history in a boreal Scots pine forest. Ecological Bulletins 49: 115-127.

Reference: Rouvinen, S. & Kuuluvainen, T. (2001): Amount and spatial distribution of standing and downed dead trees in two areas of different fire history in a boreal Scots pine forest. Ecological Bulletins 49: 115-127.

Short reference: Rouvinen & Kuuluvainen (2001)

First author: Rouvinen, Seppo

Year: 2001

Abstract

Amount and spatial distribution of standing and downed dead trees in two areas of different fire history in a boreal Scots pine forest.

Seppo Rouvinen and Timo Kuuluvainen

The amount and spatial distribution of standing and downed dead trees were examined in a mature Scots pine *Pinus sylvestris* L. forest in eastern Finland. A 9-ha area was mapped for living and standing dead trees and a 2-ha plot for downed logs. For the analyses the study area was divided into two parts based on an analysis of fire history: in one part the last fire occurred in the early 19th century (old burn), while the other part had been hit by a surface fire in 1906 (1906 burn). In the two areas the amount of dead wood was computed as total volume and divided into different decay stages for both standing dead trees and downed logs. The spatial distribution of dead trees was examined using Ripley's K-function analyses. Circular statistics was used to determine the directional distribution of downed logs. The volume of standing dead trees was 14 m³ ha in the 1906 burn. The volume of downed logs was 43 m³ ha⁻¹ in the old burn and 35 m³ ha⁻¹ in the 1906 burn. The spatial pattern of standing dead trees was clustered. Small dead trees (height 1.3-5m) in the 1906 burn showed the most pronounced clustered pattern. Downed logs (their stump locations) were clustered in both areas. The distribution of the fall directions of downed logs was not random, but was weighted toward northeastern and southeastern directions. In the studied forest the occurrence of the 1906 surface fire did not have a

significant long-term effect on the total amount and spatial distribution pattern of dead wood. Instead the surface fire enhanced regeneration and, later through the self-thinning and competition processes, creation of small dead trees. Our results suggest that dead wood dynamics in Scots pine forests may not be significantly affected by surface fires, but primarily by other causes of overstory mortality.

deadwood

Notes

Amount and spatial distribution of standing and downed dead trees in two areas of different fire history in a boreal Scots pine forest.

Seppo Rouvinen and Timo Kuuluvainen

Tartalom címszavakban:

Material and methods

Study area

Forest history

Tree measurements

Analysis methods

Results

Amount of standing and downed dead trees

Spatial pattern of standing and downed dead trees

Spatial pattern of living and dead standing trees by tree classes

Discussion

References

Címszavazva - VA

Journal: Ecological Bulletins

Location: ER Archívum (2001/P-012)

Type: scientific paper

Katalógusba vette: Gulyás Györgyi

Katalógusbavétel időpontja: Fri, 11/13/2009 - 12:00