

# Understanding the impact of forest disturbances on lynx habitat selection in the Bohemian Forest

Arne Zebski, Bachelor Thesis

## Abstract

After its history of extinction and reintroduction, the lynx (*Lynx lynx*) is focus of conservation efforts in the Bohemian Forest. Understanding lynx habitat preferences is key to its conservation. This study aims to identify lynx habitat preferences between undisturbed and disturbed forest and between disturbance characteristics and hypothesizes that (1) lynxes are over-proportionately present in disturbance patches, (2) disturbance characteristics affect preference between disturbances, (3) lynx sex, activity status and season affect presence in disturbance patches and (4) these factors affect preference between disturbances. Habitat selection was assessed based on 1157 observations of GPS-collared lynxes and disturbance maps derived from Landsat imagery. The hypotheses were tested with significance tests of disturbance data at lynx observation sites. Testing reveals that lynxes are significantly over-proportionately present in forest disturbance patches, disturbance magnitude, duration and maturity are not significant for lynx's overall habitat selection, but are defining factors for the distinction of disturbance preference between lynxes of different sex, lynxes in different activity status and during different seasons. Thus, hypothesis (1) is accepted, (2) must be rejected, (3) and (4) are accepted for some observation subsets and rejected for others. Since disturbances are identified as preferred sub-habitat, but different disturbance characteristic affect lynxes differently under certain circumstances (sex, activity, season), recommendations for conservation of lynxes include forgoing prevention of forest disturbances and ensure heterogeneity among disturbance patches.

