

Jan Evangelista Purkyně University in Ústí nad Labem

Faculty of Environment

Study material

## INTEGRATED FOREST AND LANDSCAPE PROTECTION

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## Objectives

Production and non-production functions of forest ecosystems affect the landscape and are a reflection of the quality of the environment. The aim of the course is not only to know the complex of factors causing disturbance of ecological stability of the forest (anthropogenic immissions, game, subcortical and phytophagous insect pests, forest fires, abiotic influences), but to define tools for prevention and elimination of negative impacts on the principles of integrated forest protection. Due to the research activities carried out, the Krušné hory and Podkrušnohorská region is an important model space for defining the impact of immissions, measures to mitigate them (substitute tree stands) and in revitalization processes (liming and fertilization) and the possibility of using bioindicators to determine process changes. Forest reclamation of dumps after mining is also included.

## Study topics

1. Immissions (development, direct and indirect action, monitoring, forest restoration measures, revitalization of forest soils)
2. Development and importance of substitute tree stands in air pollution areas, their stability and transformation
3. Calamities and calamitous leaf-eating forest pests (gradology, control, measures)
4. Bark beetle gradations (causes, species of bark beetles, control and defense procedures)
5. Game damage (causes and impacts, forest ecosystem protection procedures)
6. Forest fires (causes, impacts on the ecosystem, prevention)
7. Abiotic harmful factors acting mechanically and physiologically on the stability of forest ecosystems
8. Chemical, biological and technical means in integrated forest protection

## Study literature

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