Insect outbreaks
in managed and unmanaged forests

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Preface

Forests in Poland as a constant wealth of the whole nation, irrespective of their ownership types or protection forms, are under permanent hazard posed by biotic, abiotic and anthropogenic factors. Winds are among natural abiotic factors contributing to the occurrence of bark and woodboring beetles outbreaks in both managed and unmanaged forests in highlands and lowlands. Particular attention should be paid to hazards to forests from phytophageous and cambiophageous insects, the outbreaks of which could affect forest stands not only in managed forests, but also in areas of the National Parks, nature reserves and landscape parks, and the areas of protected landscape.

Pine forest ecosystems in Poland in both managed forests and protected areas are the sites of frequent outbreaks of defoliating pests, including the nun moth *Lymantria monacha* L., pine lappet moth *Dendrolimus pini* L., pine beauty moth *Panolis flammea* Den.et Schiff., pine looper moth *Bupalus piniarius* L., pine sawflies *Diprionidae*, and other species.

The most frequently occurring cambiophages causing tree dieback in both managed and unmanaged forests are:

– in pine stands:
  and steelblue jewel beetle *Phaenops cyanea* F.

– in spruce stands:
  European spruce bark beetle *Ips typographus* L. and six-toothed spruce bark beetle *Pityogenes chalcographus* L.

– in fir stands:
  silver fir bark beetle *Pityokteines curvidens* Germ. and European silver fir weevil *Pissodes piceae* Ill.

– in broadleaved stands:
  *Scolytus* spp. and *Agrilus* spp.

From the point of view of social wealth and nature conservation, the early and precise identification of existing hazards is essential to undertake adequate protective activities in accordance with the state-of-the-art and in compliance with the legal provisions on nature conservation in force.

In the recent years, the ecologists in various scientific centres emphasise the changes in ecosystems that result from forest management practices. Exploration of these changes as the result of anthropogenic activity is necessary for an appropriate management in forest ecosystems. Thus, there is a need to compare conditions and threats to various components of biocenoses in both managed and unmanaged forests.

The materials presented during the International Conference titled “Insect Outbreaks in Managed and Unmanaged Forests” which was held in 2003, in the framework of WP 6.1 „PROFOREST” Project, in Malinówka, show a broad spectrum of the issues relating to insect outbreaks in managed and unmanaged forests, both in Poland and the Czech Republic. The conference was supported by the European Commission within the PROFOREST Centre of Excellence (“Protection of Forest Resources in Central Europe”), Regional Directorate of the State Forests in Białystok and Polish Forest Society. The materials present various approaches to the issues considered in both theoretical and practical aspects.
Species composition of the studied insect species groups in the National Parks, strict nature reserves, and managed forests was similar. Their populations were quite differentiated and did not depend exclusively on whether an ecosystems was, or not, embraced by legal protection. So, for example, in the „Biała Ługa” Reserve, the whole epigeic entomofauna, including Carabidae, was more than fivefold less numerous than that in managed forests. Species composition was in similar relation.

Chemical control of defoliators in Polish forests with insect growth regulators should not be used on the sites under legal protection. Also, debarking of stumps after cutting off trees in protected forests is not recommended. It is noteworthy that the Conference provided an opportunity to exchange views on the conservation strategies in managed and unmanaged forests among scientists and practitioners from Poland, Czech Republic, Lithuania and Ukraine.

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