

83 delegates from 16 European countries, from FAO and UNESCO. The XV Congress was in 1971 in Gainesville (USA). It was the first Congress organized outside of Europe, in North America and it became the World Congress. There were 681 delegates from 57 countries at that Congress. It was the time for radical reorganization of the Union. There were departments, subject, project, working groups and others. The XVIII Congress was in 1986 in Ljubljana (Yugoslavia), there were 2,247 registered participants from 73 countries, including 1876 reports. The XXIV IUFRO World Congress «Sustaining Forests, Sustaining People: The Role of Research» was held in 2014 in Salt Lake City (USA). 2,492 scientists, experts and nearly 700 students from 100 countries participating attended it.

**Key words:** stages of development, the Congress, the Russian representatives.

## **GROWTH AND REGENERATION OF MACEDONIAN PINE (*PINUS PEUCE* GRISEB.) IN BAVARIA AGAINST THE BACKDROP OF CLIMATE CHANGE**

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One strategy to mitigate the effects of climate change on forests in an uncertain future is the allocation of risks to a portfolio of different tree species. Since the beginning of 2009 a project of the Bavarian State Institute of Forestry give attention to the identification of warmth and drought tolerant tree species against the background of climate change. As an outcome of this process six potential non-native tree species have been selected for the establishment of species trials in Bavaria. Parallel to the establishment of young trial plantations one of them – *Pinus peuce* – could be analyzed in detail in 67 to 105 year old planted stands in Upper Bavaria and Upper Palatinate for complementing information. We aimed to determine previous growth and performance and tried to compare it with that of other tree species, e.g. Norway spruce, Scots pine, Eastern white pine, Douglas fir. For instance four small planted stands in the Forest Experimental Garden of Grafrath achieved a mean dbh of 26.8 to 43.8 cm, an average height of 24.1 to 28.4 m at a single tree volume of 0.7 to 1.8 m<sup>3</sup>. Due to drought stress, particularly during a period of increased temperature, the radial growth of *P. peuce* broke in considerably in the years 1976 and 2003, whereupon the species recovered quickly from the debilitation. As

a consequence of decreasing precipitation and high numbers of frost days in May *P. peuce* exhibited strong negative reactions in annual ring width. In general trees reacted positively to increasing mean annual temperature. Despite of a high volume production the results revealed several uncertainties about the suitability of *P. peuce* for South Bavaria. On the assumption of a further decrease in precipitation in the near future *P. peuce* is probably going to suffer increasingly from drought stress and is going to lose annual increment. Nevertheless the species seems to be qualified for afforestation in montane areas because of given proof of resistance against wind throw and snow break. The wood of *P. peuce* has manifold uses, particularly as cabinet-wood but can also be used in pulp and paper production.

**Key words:** forest transformation, growth trials, tree species selection.

## **CAN DISTURBANCE MANAGEMENT FOSTER BOTH BIODIVERSITY AND ECOSYSTEM SERVICES?**

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Disturbances are highly sensitive to changes in both climate means and extremes, making intensifying disturbance regimes one of the key challenges for forest management under climate change. Yet, a comprehensive understanding of disturbance impacts on ecosystem services and biodiversity is still lacking, hampering a science-based response to these changes in disturbance management. We here (i) review the impact of fire, wind, and bark beetles on biodiversity and ecosystem services to facilitate a broad understanding of disturbance effects, and (ii) highlight the effects of salvage logging and prescribed burning, two important approaches in disturbance management, in this context. We found that ecosystem services are mostly negatively affected by disturbance, while effects on biodiversity are predominantly positive. Our global meta-analysis suggests that neither prescribed burning nor salvage logging are suitable means to simultaneously enhance biodiversity and ecosystem services provisioning. While prescribed burning has an overall positive effect on biodiversity, it still affects ecosystem services negatively. Furthermore, salvage logged sites were not found to significantly differ from non-salvaged areas in terms of biodiversity and ecosystem services. To further elucidate this unexpected finding with regard to salvage effects on