

Old-growth forests of Domogled-Valea Cernei National Park (Romania) between conservation and mismanagement

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Abstract

Old-growth forests are extremely vulnerable to socio-economic pressures. Some of these forests are included in protected areas, but they still face difficulties in terms of conservation management, namely specific forest works and wood harvesting activities. We analyzed the contradiction between the aim and objectives of protected areas and economic activities in the Domogled-Valea Cernei National Park. We used GIS and online media monitoring techniques. Results revealed that these forest works affected considerable woodland areas, including old-growth forests.

Keywords

old-growth forest, wood harvesting, conservation, national park, Domogled-Valea Cernei, Romania

Introduction

Old-growth forests are primeval forest ecosystems, originated and developed exclusively under the influence of natural factors, without any direct or indirect human interference (ORDINUL MINISTRULUI Nr. 3397/2012). The main reasons why they have survived in the past were their inaccessibility (e.g. their location in the narrow valleys, steep and rocky areas or at the upper limit of forests) and low economic value of timber from secular trees. Over the last millennia, the forests of Europe were dramatically reduced, initially due to grazing and agriculture, and as a result of population growth, the emergence of major urban areas and industrial zones. At the same time, the natural structure of forests has changed significantly as a result of exploitation (BIRIȘ 2014). It is known that, in Western Europe, the secular beech forests have disappeared since centuries over large areas. However, such forests still exist in the Carpathians, being spared so far by mining and other major human intervention (BIRIȘ et al. 2004; VEEN et al. 2010).

Currently, old-growth (virgin) forests are extremely vulnerable to economic and social restraints. In Romania, these forests hold about 300,000 hectares, or 5% of the national forest area. However, only 18% of them have a certain protection status so far, in that it is included in the protected areas. A smaller percentage enjoys full protection. Over 80% have no form of protection and are in danger of being legally destroyed (WWF, 2011). In this respect, a legal provision has nationally been issued in 2012, governing the status of strict protection for primary forest ecosystems (ORDINUL MINISTRULUI Nr. 3397/2012) and in 2016 to ensure the protection of these forests against human intervention, the National Catalogue of virgin forests in Romania was conducted (ORDINUL MINISTRULUI Nr. 1417/2016).

In this context, *the aim* of this study was to analyze the contradiction between the purpose of protected areas and the economic activities in the Domogled-Valea Cernei National Park (South Carpathians), according to the uncontested best practices promoted by scientific assessments. *The study objectives* were: a) to map the deforested areas within the Domogled-Valea Cernei National Park; b) to propose solutions to reduce the impact on forests with high conservation value.

Methodology

Field survey, GIS analysis, and monitoring on-line media were the main tools used for collecting the wood harvesting data of old-growth forests in the study areas. Field work conducted during July-September 2016 concerned at identifying wood harvested areas within the virgin forests of Cerna basin.

Mapping of wood extraction works was based on data obtained from field survey and satellite imagery of the study area (Google Imagery 2017 & Deforestation Map 2017). The PIN-MATRA project (BIRIȘ & VEEN, 2005; MINISTERUL MEDIULUI, 2016) resulted in a comprehensive digital database on the spatial distribution of old-growth forests. The PIN-Matra polygons were superposed over the most recent imagery to detect wood harvesting within the old-growth forests (Fig. 1).

The results were then compared to the latest studies and investigations carried out, by monitoring the official site of the European Wilderness Society (VANCURA, 2017), online media - newspapers (evz.ro, jurnalul.ro, ziarlive.ro, etc.), national websites (agentgreen.ro, wwf.ro, romaniacurata.ro, expressdebanat.ro, greenpeace.org, etc.), television channels (ProTv, Digi24TV), social networks and discussion forums aimed at highlighting the logging phenomenon in the protected areas.

Results and discussion

Wood harvesting is present in significant areas of the Domogled-Valea Cernei NP (Fig. 1). The map shows that the forest is exploited systematically within the national park area, whose purpose is the protection and conservation of forest ecosystems. Interventions in forests classified as old-growth (BIRIŞ & VEEN, 2005), and therefore subject to strict protection, were found in the Craiova, Stârminos and Curmeziş valleys (tributaries to Cerna on the right side), and on the western slope of Mount Şarba (Cerna upper basin).

The dots representing wood harvested areas fall either into non-virgin spruce, beech and mixed forests, or, most significant, into the virgin or old-growth beech forests (20% of the total logged areas). All of them are located in the upper sector of Cerna Valley, especially on the right, south-easterly-exposed slope. Forest roads were opened within the park boundaries, including old-growth forests, to facilitate wood harvesting. Thus, the quality of virgin forest is being lost and the ecosystem gradually transforms into a forest holding.

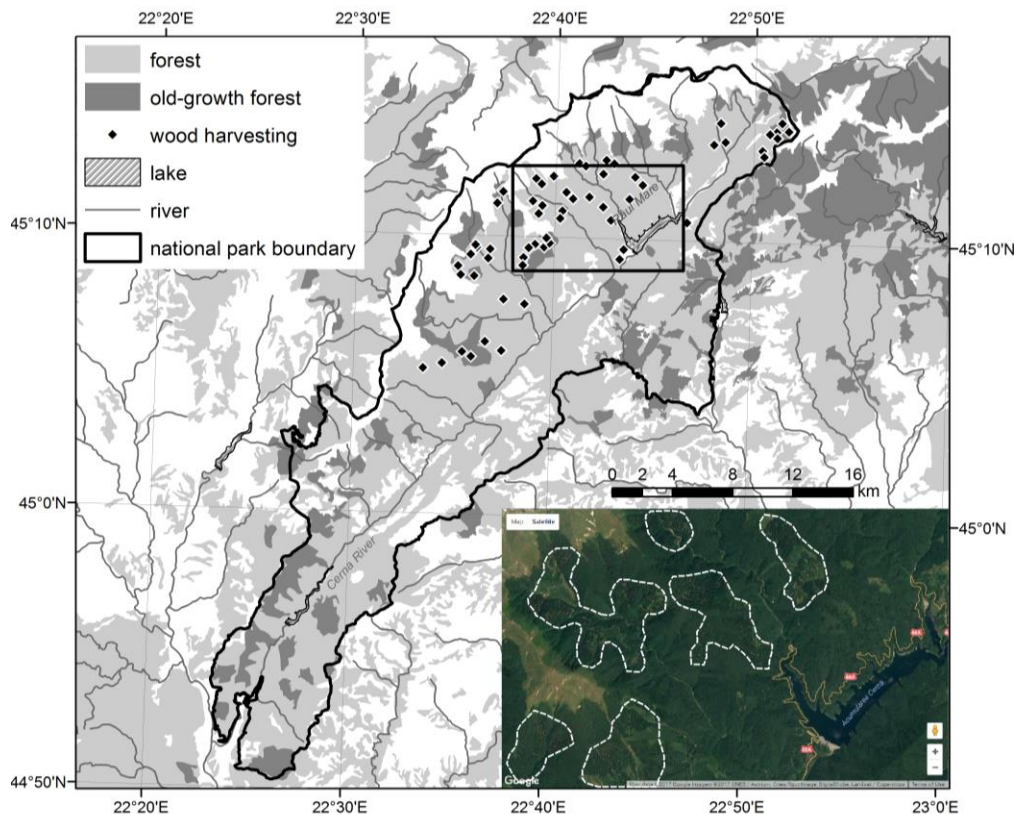


Figure 1. Present-day wood harvesting of the common and old-growth forests in the Domogled-Valea Cernei National Park. Detailed view in the inset, courtesy of Google Imagery (2017).

The spatial analysis results reflect the general views exposed by international wilderness conservation societies, national organizations and other media, regarding the sensitive status in Romania of protected forests in general, and old-growth-forests in particular.

Conclusions and recommendations

The analysis shows that some virgin forests are subject to forest works. In accordance with the worldwide recommendations of IUCN (International Union for the Conservation of Nature), the old-growth forests should not undergo any human intervention because trees should be left to die of old age, and dead wood remains in situ to feed the ecosystem and contribute to increasing the value of biodiversity. A number of proposals were made in order to limit these interventions in the old-growth forests: a) inclusion under full or even strict protection of all old-growth (virgin) forests; b) granting subsidies to forest owners in exchange for protection of virgin forests; c) rethinking internal zoning of national parks depending on the importance of forest ecosystems located within them; d) to improve national legislation in order to implement real and functional conservation measures.

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