



Fire Management on Terrain Contaminated by Unexploded Ordnance during and post Conflict in Europe

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ABSTRACT – In many countries of Europe active and abandoned military training areas and former armed conflict areas are still contaminated by unexploded ammunition (Unexploded Ordnance – UXO). Wildfires occurring on these contaminated areas pose a high risk to fire management personnel and civil society. This problem has become evident during wildfires burning in Central, Eastern and Southeast Europe over the last years, notably in Germany, during the drought of 2018. Military activities during armed conflicts have resulted in wildfires and significant collateral damage to the natural and cultural landscapes of Eastern Europe, affecting the industrial and social infrastructure and thus contributed to the worsening economic situation and security in the region. Former military training areas that had been subjected to mechanical disturbances as consequence of movements of tanks and other military vehicles, artillery shooting and bombing exercises, often associated with wildfires started by explosive ordnance. These active and abandoned training areas provide habitats and refugia for endangered species and open land ecosystems. Abandoned or reduced disturbances by military training have resulted in plant succession towards forest formation, resulting in losses of habitats for endangered species dependent on open-land ecosystems, notably the *Calluna vulgaris* heathlands. Prescribed burning to maintain cannot always be considered as complementary measures due to the threat of UXO explosions. A concept and technologies have been developed in a R&D project in the Heidehof-Golmberg conservation area, an abandoned military training area in Brandenburg State, Germany, to safely apply prescribed fire by using converted military tanks as armored prescribed fire ignition vehicle and fire suppression apparatus. Prescribed burning operations are supported by unmanned aerial systems (UAS) for monitoring progress and decision support. During the 2018 wildfires in Germany these armored vehicles constituted the only possibility to fight dangerous wildfires on contaminated terrain.

Keywords: Unexploded ordnance; UXO; collateral damages; conflict; post-conflict

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