Woodland usage and fuel wood ecology: Linking historical information and kilns charcoal analyses in the northern Vosges (Pays de Bitche; France).

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Abstract

Little research has been conducted to the landscape history and woodland usage in the Pays de Bitche area, although local past industries and landscapes indicates the possible importance of anthropogenic use of forest resources in the area. This appears to be a considerable gap for the understanding and management of local ecological systems, especially when considering that wood consumption and charcoal production was one of the main driver for forest degradation in low mountain ranges in central Europe.
Therefore, we developed a study of the past forest use for wood and charcoal. In this study we are presenting first anthracological analyses from charcoal production sites (kiln sites) to get a better understanding of the fuelwood usage and the local scale interlocking of deciduous trees (e.g. *Quercus* sp., *Fagus sylvatica*). And, we compare the anthracological data with historical written sources to link the historical information about wood consumption or protection and charcoal production. Through this innovative interdisciplinary approach, we try to gain a better understanding of the historical forest use and therefore the creation of the current forest system.

468 kiln sites were localized from which 76 sites were chosen for charcoal analysis. All in all, 7700 pieces of charcoal were taxonomical identified and the minimum size were estimated to get information about the used wood diameter.

Information about past wood consumption were gathered from historical records of trees selection by foresters. These records are selected when permitting chronological assessment and solid localisation in landscapes. They provides information for species, size and amount of trees that were harvested or/and maintained for each specific area.
We then compared the anthracological data and the trees selection records on areas where both practices were done. First results of our approach show a relevant complementary of the data. We present here those results.

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