

## 2. **Identification and Ecology of NWFP species**



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### 2.1 **Introduction**

Non-wood forest products (NWFP) are an integral share of good that are provided by forests. The trend within forest policy within Europe is increasingly moving towards a focus of multi-functionality, where alongside protective forest functions and services, a wide range of products can be derived in conjunction with timber production. NWFP are often used on a personal level to enrich a person's diet, their collection is frequently utilised as a form of recreation and social interaction or as an opportunity to generate income. NWFP are also utilised on a small and medium enterprise level but can also frequently be found as internationally established mass market products. The identification and ecology of NWFP concerns the recognition of a species, its use as a NWFP, and the specific conditions that the resource requires within the forested environment in order to flourish. Over past decades the increased utilisation and production of mushrooms and truffles have ensured that forest fungi represents one of the principal NWFP groups within European forests, this is in part due to their high economic, social and ecological value. With the exception of cork and similar products as special cases, tree derived NWFP such as fruits and nuts, but also barks, resins and leaves, although abundantly present within the forest are often confined to commercial plantations as their management and production within the forest is largely disparate with timber orientated silvicultural goals, a degree of compromise between production goals has been recognised for the successful culture and co-production of NWFP (Sheppard *et al.* 2016). Wild-harvested understory plants are widely utilised both privately and commercially, however, information remains scarce regarding population dynamics, sustainable production and harvest from a European standpoint. Similarly the use of products that are derived from an animal origin can be

considered a key NWFP group; hunting as a form of recreation or as a means of species population control is widespread, with traditional roots throughout Europe, but is often considered parallel to forest management goals rather than as a direct objective.

A multitude of terms have been proposed to describe the derivation of products exclusive of wood and timber products from the forest, these include minor forest products, non wood goods and benefits, secondary forest products and so forth (FAO 1999, Belcher 2003). The established terminology for such products has been harmonised to describe such products as NWFP, a description which is generally accepted to encompass all tangible goods of biological origin (with the exception of wood products) that are derived from forests and wooded land, and also from trees outside the forest (FAO 1999). The term non-timber forest products (NTFP) is often used as a synonym although some definitions make further distinctions between wood and timber, by including small and fuel wood within the definition. Importantly forest services and benefits are excluded from the definition (FAO 1999)<sup>1</sup>. NWFP can be subdivided into two groups dependent on derived origin: a direct NWFP describes a product that is directly derived from a particular species i.e. cherries or walnuts from *Prunus avium* or *Juglans regia* respectively, whereas an indirect NWFP describes species that co-exist with trees when provided with certain site conditions that the overstory bestow, for example mushroom and truffle species. Such species representing sought-after NWFP are often not part of a predetermined forestry production goal but coincidentally co-exist due to particular site conditions, possibly induced or influenced by a pre-existing silvicultural regime.

NWFP have traditionally played an important role sustaining rural livelihoods all over Europe, especially in times of hunger (for example at the end of the First World War). Forest fruits, nuts and wild mushrooms were essentially gathered for food, tree barks for resin production or leather tanning, while acorns and leaves were used as fodder for domestic animals (Killmann 2009). Over time, numerous forest sites across the whole of Europe, became progressively subject to nutrient imbalances due to excess grazing and/or litter extraction, and as forest productivity and quality gradually decreased, the utilisation of NWFP became marginalised as management objectives shifted towards wood production. Nowadays, the socio-economic contribution of forests to livelihoods and the impact of their use on the environment are essential components of modern concepts for sustainable forest management and as a result, the value of non-wood forest products is being rediscovered. However, the estimated value of NWFP varies widely across countries, as most of them are site-specific, dependent on spatial distribution and may have only local importance, rendering it difficult to obtain an overview and comparable data for all types of NWFP across Europe (Forest Europe 2015).

Nevertheless, according to the latest data brought forward by the Ministe-

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<sup>1</sup> Further discussion on the definition of NWFP is given in Chapter 1.1 and Belcher (2003).



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