

Supplementary Materials

Table S1: EFTs categories main characteristics and forest tree species based on the review of EEA (2006), Barbati et al. (2014), Pividori et al. (2016), and Giannetti et al. (2018).

EFTs Category level	Main Characteristics
1. Boreal forest	Extensive boreal, species-poor forests, dominated by <i>Picea abies</i> and <i>Pinus sylvestris</i> . Deciduous trees including birches (<i>Betula spp.</i>), aspen (<i>Populus tremula</i>), rowan (<i>Sorbus aucuparia</i>) and willows (<i>Salix spp.</i>) tend to occur as early colonizers
2. Hemiboreal and nemoral coniferous and mixed broadleaved-coniferous forest	Latitudinal mixed forests located in between the boreal and nemoral (or temperate) forest zones with similar characteristics to EFT 1, but a slightly higher tree species diversity, including also temperate deciduous trees like <i>Tilia cordata</i> , <i>Fraxinus excelsior</i> , <i>Ulmus glabra</i> and <i>Quercus robur</i> . Includes also: pure and mixed forests in the nemoral forest zone dominated by coniferous species native within the borders of individual FOREST EUROPE member states like <i>Pinus sylvestris</i> , pines of the <i>Pinus nigra</i> group, <i>Pinus pinaster</i> , <i>Picea abies</i> , <i>Abies alba</i>
3. Alpine forest	High-altitude forest belts of central and southern European mountain ranges, covered by <i>Picea abies</i> , <i>Abies alba</i> , <i>Pinus sylvestris</i> , <i>Pinus nigra</i> , <i>Larix decidua</i> , <i>Pinus cembra</i> and <i>Pinus mugo</i> . Includes also the mountain forest dominated by birch of the boreal region
4. Acidophilous oak and oak-birch forest	Scattered occurrence associated with less fertile soils of the nemoral forest zone; the tree species composition is poor and dominated by acidophilous oaks (<i>Quercus robur</i> , <i>Q. petraea</i>) and birch (<i>Betula pendula</i>)
5. Mesophytic deciduous forest	Related to medium rich soils of the nemoral forest zone; forest composition is mixed and made up of a relatively large number of broadleaved deciduous trees: <i>Carpinus betulus</i> , <i>Quercus petraea</i> , <i>Quercus robur</i> , <i>Fraxinus</i> , <i>Acer</i> and <i>Tilia cordata</i>
6. Beech forest	Widely distributed lowland to submountainous beech forest. Beech, <i>Fagus sylvatica</i> and <i>F. orientalis</i> (Balkan) dominate, locally important is <i>Betula pendula</i>
7. Mountainous beech forest	Mixed broadleaved deciduous and coniferous vegetation belt in the main European mountain ranges. Species composition differs from EFT 6, including <i>Picea abies</i> , <i>Abies alba</i> , <i>Betula pendula</i> and mesophytic deciduous tree species. Includes also mountain fir dominated stands
8. Thermophilous deciduous forest	Deciduous and semi-deciduous forests mainly of the Mediterranean region are dominated by thermophilous species, mainly of the genus <i>Quercus</i> , <i>Acer</i> , <i>Ostrya</i> , <i>Fraxinus</i> , <i>Carpinus</i>

	species are frequent as associated secondary trees. Includes also <i>Castanea sativa</i> dominated forest
9. Broadleaved evergreen forest	Broadleaved evergreen forests of the Mediterranean and Macaronesian regions dominated by sclerophyllous or lauriphyllous trees, mainly <i>Quercus</i> species
10. Coniferous forests of the Mediterranean, Anatolian and Macaronesian regions	Varied groups of coniferous forests in Mediterranean, Anatolian and Macaronesian regions, from the coast to high mountains. Dry and often poorly developed soils limit tree growth. Several tree species, including several endemisms, including <i>Pinus</i> , <i>Abies</i> and <i>Juniperus</i> species
11. Mire and swamp forests	Wetland forests on peaty soils are widely distributed in the boreal region. Water and nutrient regimes determine the dominant tree species: <i>Pinus sylvestris</i> , <i>Picea abies</i> or <i>Alnus glutinosa</i>
12. Floodplain forest	Riparian and riverine species-rich forests characterised by different assemblages of species of <i>Alnus</i> , <i>Betula</i> , <i>Populus</i> , <i>Salix</i> , <i>Fraxinus</i> , <i>Ulmus</i>
13. Non-riverine alder, birch or aspen forest	Pioneer forests dominated by <i>Alnus</i> , <i>Betula</i> or <i>Populus</i>
14. Introduced tree species forest	Forests dominated by introduced tree species (<i>sensu</i> Pan-European indicator 4.4), occurring on a wide range of site conditions which otherwise would develop forests of above categories. Introduced tree species can be identified at regional (recommended) or national level and comprise: – tree species that are not native to Europe (e.g. <i>Eucalyptus spp.</i> , <i>Robinia pseudoacacia</i> , <i>Acacia dealbata</i> , <i>Ailanthus altissima</i> , <i>Prunus serotina</i> , <i>Quercus rubra</i> , <i>Fraxinus alba</i> , <i>Picea sitchensis</i> , <i>Pinus contorta</i> , <i>Pinus banksiana</i> , <i>Pseudotsuga menziessii</i> , <i>Tsuga heterophylla</i>); – tree species native to Europe, but not naturally occurring within the borders of individual FOREST EUROPE member states; – tree species native only to some regions of an individual FOREST EUROPE country.

TableS2: Percentage EFTs for each country derived by the EFTs grided dataset map

Country	EFT_1	EFT_2	EFT_3	EFT_4	EFT_5	EFT_6	EFT_7	EFT_8	EFT_9	EFT_10	EFT_11	EFT_12	EFT_13	EFT_14
Albania	0.0	0.0	1.1	0.0	3.0	87.0	3.8	1.4	0.0	2.3	0.0	1.2	0.0	0.0
Andorra	0.0	0.0	97.8	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
Austria	0.0	11.0	57.3	0.3	2.8	15.0	12.3	0.1	0.0	0.0	0.0	1.2	0.0	0.0
Belgium	0.0	37.5	0.0	10.5	6.7	21.8	6.3	0.0	0.0	0.0	0.0	17.1	0.0	0.0
Bosnia & Herzegovina	0.0	0.0	16.9	3.4	16.8	44.2	1.9	7.8	0.0	0.3	0.0	7.0	0.1	1.5
Bulgaria	0.0	0.2	12.0	0.0	11.5	57.3	6.2	2.0	0.0	0.1	0.0	2.9	0.5	7.4
Croatia	0.0	0.1	2.7	0.0	41.2	33.0	1.7	9.4	0.0	0.6	0.0	5.3	0.1	5.9
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	11.0	4.1	0.0	5.3	0.0	79.6	0.0	0.0
Czech Republic	0.0	64.1	0.1	3.4	6.7	10.8	6.7	0.5	0.0	0.0	0.1	7.3	0.2	0.0
Denmark	0.0	35.4	1.5	0.1	11.5	32.5	6.8	0.7	0.0	0.0	0.2	8.9	0.9	1.5
Estonia	6.3	45.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	21.4	26.5	0.0
Finland	83.6	5.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	5.7	3.3	0.0
France	0.0	18.4	3.9	4.3	1.1	21.7	6.1	16.0	6.0	4.7	0.0	4.5	0.1	0.2
Germany	0.0	51.2	1.9	0.3	0.8	32.4	9.3	0.1	0.0	0.0	0.1	3.6	0.2	0.1
Greece	0.0	0.0	0.2	0.3	8.3	50.5	3.1	10.8	5.9	12.3	0.0	8.6	0.0	0.0
Hungary	0.0	0.2	0.0	0.0	45.4	10.0	6.0	5.1	0.0	0.0	0.0	2.5	9.1	21.7
Ireland	0.0	15.7	0.0	0.1	3.6	2.3	36.5	0.0	0.0	0.0	0.3	20.1	3.6	17.8
Italy	0.0	0.0	10.6	0.0	10.0	22.0	1.7	39.8	10.3	1.6	0.0	2.7	0.1	1.1
Latvia	0.2	49.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	23.7	25.6	0.0
Liechtenstein	0.0	0.0	59.9	0.0	0.0	23.1	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lithuania	0.4	55.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	20.8	22.2	0.0
Luxembourg	0.0	12.5	0.0	0.0	1.1	77.9	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.8	71.6	0.0	27.6	0.0	0.0	0.0	0.0	0.0
Montenegro	0.0	0.0	12.1	0.0	0.0	38.7	0.1	45.2	0.0	0.3	0.0	0.0	3.5	0.0	0.0
Netherlands	0.0	73.2	0.0	0.0	6.7	6.5	0.8	0.0	0.0	0.0	0.0	0.2	9.1	3.4	0.1
Norway	17.6	29.2	16.6	0.0	0.0	0.1	0.3	0.3	0.0	0.0	0.0	2.0	30.2	3.7	0.0
Poland	0.0	67.2	2.8	1.0	1.5	13.4	3.8	0.0	0.0	0.0	0.0	0.1	8.2	1.9	0.0
Portugal	0.0	3.8	0.0	0.0	0.0	0.0	0.0	11.8	67.0	17.3	0.0	0.0	0.1	0.0	0.0
Romania	0.0	0.1	17.8	0.2	16.3	53.9	4.7	2.8	0.0	0.0	0.0	0.0	1.2	0.7	2.2
San Marino	0.0	0.0	0.0	0.0	51.2	0.0	0.1	47.6	0.0	0.0	0.0	0.0	0.1	1.1	0.0
Serbia	0.0	0.0	0.7	0.1	4.3	76.3	3.3	2.4	0.0	0.0	0.0	0.0	2.3	0.2	10.5
Slovakia	0.0	0.0	24.2	0.2	13.0	52.9	7.4	0.4	0.0	0.0	0.0	0.0	1.3	0.3	0.1
Slovenia	0.0	0.0	16.1	0.0	1.7	55.1	19.8	6.8	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Spain	0.0	7.2	2.3	0.0	0.0	5.0	2.3	9.6	43.4	25.1	0.0	0.0	5.2	0.0	0.1
Sweden	59.1	21.9	8.8	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	1.0	7.2	1.5	0.0
Switzerland	0.0	9.5	38.7	0.0	0.3	29.9	15.5	1.1	0.0	0.0	0.0	0.0	4.9	0.1	0.0
The former Yugoslav Republic of Macedonia	0.0	0.0	1.0	0.0	0.0	87.9	8.1	1.5	0.0	0.0	0.0	0.0	1.5	0.0	0.0
U.K. of Great Britain and Northern Ireland	0.0	31.0	0.0	0.0	9.4	9.0	29.2	0.2	0.0	0.0	0.0	0.1	15.8	0.5	4.9