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ANNEXES 1 to 7

ANNEXES

to the

proposal for a Regulation of the European Parliament and of the Council

on nature restoration

{SEC(2022) 256 final} - {SWD(2022) 167 final} - {SWD(2022) 168 final}

EN

ANNEX I

TERRESTRIAL, COASTAL AND FRESHWATER ECOSYSTEMS – HABITAT TYPES AND GROUPS OF HABITAT TYPES REFERRED TO IN ARTICLE 4(1) AND 4(2)

The list below includes all terrestrial, coastal and freshwater habitat types listed in Annex I of Directive 92/43/EEC referred to in Article 4(1) and 4(2), as well as six groups of those habitat types, namely 1) Wetlands (coastal and inland), 2) Grasslands and other pastoral habitats, 3) River, lake, alluvial and riparian habitats, 4) Forests, 5) Steppe, heath and scrub habitats and 6) Rocky and dune habitats.

1. GROUP 1: WETLANDS (COASTAL & INLAND)

Habitat type code as referred to in Annex I of Council Directive 92/43/EEC	**Habitat type name as referred to in Annex I of Council Directive 92/43/EEC**
Coastal and salt habitats	
1130	Estuaries
140	Mudflats and sandflats not covered by seawater at low tide
1150	Coastal lagoons
1310	Salicornia and other annuals colonizing mud and sand
1320	Spartina swards (*Spartinion maritimae*)
1330	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
1340	Inland salt meadows
1410	Mediterranean salt meadows (*Juncetalia maritimi*)
1420	Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
1530	Pannonic salt steppes and salt marshes
1650	Boreal Baltic narrow inlets

Wet heaths and peat grassland	
4010	Northern Atlantic wet heaths with *Erica tetralix*
4020	Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*
6460	Peat grasslands of Troodos
Mires, bogs and fens	
7110	Active raised bogs
7120	Degraded raised bogs still capable of natural regeneration
7130	Blanket bogs
7140	Transition mires and quaking bogs
7150	Depressions on peat substrates of the *Rhynchosporion*
7160	Fennoscandian mineral-rich springs and springfens
7210	Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*
7220	Petrifying springs with tufa formation (*Cratoneurion*)
7230	Alkaline fens
7240	Alpine pioneer formations of the *Caricion bicoloris-atrofuscae*
7310	Aapa mires
7320	Palsa mires
Wet forests	
9080	Fennoscandian deciduous swamp woods
91D0	Bog woodland

2. GROUP 2: GRASSLANDS AND OTHER PASTORAL HABITATS

Habitat type code as referred to in Annex I of Council Directive 92/43/EEC	**Habitat type name as referred to in Annex I of Council Directive 92/43/EEC**
Costal and dune habitats	
1630	Boreal Baltic coastal meadows
21A0	Machairs
Heath and scrub habitats	
4030	European dry heaths
4040	Dry Atlantic coastal heaths with *Erica vagans*
4090	Endemic oro-Mediterranean heaths with gorse
5130	*Juniperus communis* formations on heaths or calcareous grasslands
8240	Limestone pavements
Grasslands	
6110	Rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi*
6120	Xeric sand calcareous grasslands
6130	Calaminarian grasslands of the *Violetalia calaminariae*
6140	Siliceous Pyrenean *Festuca eskia* grasslands
6150	Siliceous alpine and boreal grasslands
6160	Oro-Iberian *Festuca indigesta* grasslands
6170	Alpine and subalpine calcareous grasslands

6180	Macaronesian mesophile grasslands
6190	Rupicolous pannonic grasslands *(Stipo-Festucetalia pallentis*)
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia)*
6220	Pseudo-steppe with grasses and annuals of the *Thero-Brachypodietea*
6230	Species-rich *Nardus* grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)
6240	Sub-Pannonic steppic grasslands
6250	Pannonic loess steppic grasslands
6260	Pannonic sand steppes
6270	Fennoscandian lowland species-rich dry to mesic grasslands
6280	Nordic alvar and precambrian calcareous flatrocks
62A0	Eastern sub-Mediterranean dry grasslands *(Scorzoneratalia villosae)*
62B0	Serpentinophilous grassland of Cyprus
62C0	Ponto-Sarmatic steppes
62D0	Oro-Moesian acidophilous grasslands
6410	*Molinia* meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)*
6420	Mediterranean tall humid grasslands of the *Molinio-Holoschoenion*
6510	Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)
6520	Mountain hay meadows
Dehesas and wooded meadows	
6310	Dehesas with evergreen *Quercus spp*.
6530	Fennoscandian wooded meadows
9070	Fennoscandian wooded pastures

3. GROUP 3: RIVER, LAKE, ALLUVIAL AND RIPARIAN HABITATS

Habitat type code as referred to in Annex I of Council Directive 92/43/EEC	**Habitat type name as referred to in Annex I of Council Directive 92/43/EEC**
Rivers and lakes	
3110	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)
3120	Oligotrophic waters containing very few minerals generally on sandy soils of the West Mediterranean, with *Isoetes* spp.
3130	Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*
3140	Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
3150	Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* — type vegetation
3160	Natural dystrophic lakes and ponds
3170	Mediterranean temporary ponds
3180	Turloughs
3190	Lakes of gypsum karst
31A0	Transylvanian hot-spring lotus beds
3210	Fennoscandian natural rivers
3220	Alpine rivers and the herbaceous vegetation along their banks
3230	Alpine rivers and their ligneous vegetation with *Myricaria germanica*
3240	Alpine rivers and their ligneous vegetation with *Salix elaeagnos*
3250	Constantly flowing Mediterranean rivers with *Glaucium flavum*
3260	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

3270	Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p. vegetation
3280	Constantly flowing Mediterranean rivers with *Paspalo-Agrostidion* species and hanging curtains of *Salix* and *Populus alba*
3290	Intermittently flowing Mediterranean rivers of the *Paspalo-Agrostidion*
32A0	Tufa cascades of karstic rivers of the Dinaric Alps
Alluvial meadows	
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
6440	Alluvial meadows of river valleys of the *Cnidion dubii*
6450	Northern boreal alluvial meadows
6540	Sub-Mediterranean grasslands of the *Molinio-Hordeion secalini*
Alluvial/Riparian forests	
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*
91E0	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)
91F0	Riparian mixed forests of *Quercus robur*, *Ulmus laevis* and *Ulmus minor*, *Fraxinus excelsior* or *Fraxinus angustifolia*, along the great rivers (*Ulmenion minoris*)
92A0	Salix alba and *Populus alba* galleries
92B0	Riparian formations on intermittent Mediterranean water courses with *Rhododendron ponticum*, *Salix* and others
92C0	Platanus orientalis and Liquidambar orientalis woods (*Platanion orientalis*)
92D0	Southern riparian galleries and thickets (*Nerio-Tamaricetea* and *Securinegion tinctoriae*)
9370	Palm groves of Phoenix

4. GROUP 4: FORESTS

Habitat type code as referred to in Annex I of Council Directive 92/43/EEC	Habitat type name as referred to in Annex I of Council Directive 92/43/EEC
Boreal forests	
9010	Western Taïga
9020	Fennoscandian hemiboreal natural old broad-leaved deciduous forests (*Quercus*, *Tilia*, *Acer*, *Fraxinus* or *Ulmus*) rich in epiphytes
9030	Natural forests of primary succession stages of landupheaval coast
9040	Nordic subalpine/subarctic forests with *Betula pubescens* ssp. *czerepanovii*
9050	Fennoscandian herb-rich forests with *Picea abies*
9060	Coniferous forests on, or connected to, glaciofluvial eskers
Temperate forests	
9110	*Luzulo-Fagetum* beech forests
9120	Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*)
9130	*Asperulo-Fagetum* beech forests
9140	Medio-European subalpine beech woods with *Acer* and *Rumex arifolius*
9150	Medio-European limestone beech forests of the *Cephalanthero-Fagion*
9170	*Galio-Carpinetum* oak-hornbeam forests
9180	*Tilio-Acerion* forests of slopes, screes and ravines
9190	Old acidophilous oak woods with *Quercus robur* on sandy plains

91A0	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
91B0	Thermophilous *Fraxinus angustifolia* woods
91G0	Pannonic woods with *Quercus petraea* and *Carpinus betulus*
91H0	Pannonian woods with *Quercus pubescens*
91I0	Euro-Siberian steppic woods with *Quercus* spp.
91J0	*Taxus baccata* woods of the British Isles
91K0	Illyrian *Fagus sylvatica* forests (*Aremonio-Fagion*)
91L0	Illyrian oak-hornbeam forests (*Erythronio-Carpinion*)
91M0	Pannonian-Balkanic turkey oak –sessile oak forests
91P0	Holy Cross fir forest (*Abietetum polonicum*)
91Q0	Western Carpathian calcicolous Pinus sylvestris forests
91R0	Dinaric dolomite Scots pine forests (*Genisto januensis-Pinetum*)
91S0	Western Pontic beech forests
91T0	Central European lichen Scots pine forests
91U0	Sarmatic steppe pine forest
91V0	Dacian Beech forests (*Symphyto-Fagion*)
91W0	Moesian beech forests
91X0	Dobrogean beech forests
91Y0	Dacian oak & hornbeam forests
91Z0	Moesian silver lime woods
91AA	Eastern white oak woods
91BA	Moesian silver fir forests
91CA	Rhodopide and Balkan Range Scots pine forests
Mediterranean and Macaronesian forests	
9210	Apeninne beech forests with *Taxus* and *Ilex*
9220	Apennine beech forests with *Abies alba* and beech forests with *Abies nebrodensis*

9230	Galicio-Portuguese oak woods with *Quercus robur* and *Quercus pyrenaica*
9240	*Quercus faginea* and *Quercus canariensis* Iberian woods
9250	*Quercus trojana* woods
9260	*Castanea sativa* woods
9270	Hellenic beech forests with *Abies borisii-regis*
9280	*Quercus frainetto* woods
9290	Cupressus forests (*Acero-Cupression*)
9310	Aegean *Quercus brachyphylla* woods
9320	*Olea* and *Ceratonia* forests
9330	*Quercus suber* forests
9340	*Quercus ilex* and *Quercus rotundifolia* forests
9350	*Quercus macrolepis* forests
9360	Macaronesian laurel forests (*Laurus*, *Ocotea*)
9380	Forests of *Ilex aquifolium*
9390	Scrub and low forest vegetation with *Quercus alnifolia*
93A0	Woodlands with *Quercus infectoria* (*Anagyro foetidae-Quercetum infectoriae*)
Mountainous coniferous forests	
9410	Acidophilous *Picea* forests of the montane to alpine levels (*Vaccinio-Piceetea*)
9420	Alpine *Larix decidua* and/or *Pinus cembra* forests
9430	Subalpine and montane *Pinus uncinata* forests
9510	Southern Apennine Abies alba forests
9520	*Abies pinsapo* forests
9530	(Sub-) Mediterranean pine forests with endemic black pines
9540	Mediterranean pine forests with endemic Mesogean pines
9550	Canarian endemic pine forests
9560	Endemic forests with *Juniperus* spp.

9570	*Tetraclinis articulata* forests
9580	Mediterranean *Taxus baccata* woods
9590	Cedrus brevifolia forests (*Cedrosetum brevifoliae*)
95A0	High oro-Mediterranean pine forests

5. GROUP 5: STEPPE, HEATH AND SCRUB HABITATS

Habitat type code as referred to in Annex I of Council Directive 92/43/EEC	**Habitat type name as referred to in Annex I of Council Directive 92/43/EEC**
Salt and gypsum steppes	
1430	Halo-nitrophilous scrubs (*Pegano-Salsoletea*)
1510	Mediterranean salt steppes (*Limonietalia*)
1520	Iberian gypsum vegetation (*Gypsophiletalia*)
Temperate heath and scrub	
4050	Endemic macaronesian heaths
4060	Alpine and Boreal heaths
4070	Bushes with *Pinus mugo* and *Rhododendron* hirsutum (Mugo-Rhododendretum hirsuti)
4080	Sub-Arctic *Salix* spp. scrub
40A0	Subcontinental peri-Pannonic scrub
40B0	Rhodope *Potentilla fruticosa* thickets

40C0	Ponto-Sarmatic deciduous thickets
Sclerophyllous scrub (matorral)	
5110	Stable xerothermophilous formations with *Buxus sempervirens* on rock slopes (*Berberidion* p.p.)
5120	Mountain *Cytisus purgans* formations
5140	*Cistus palhinhae* formations on maritime wet heaths
5220	Arborescent matorral with *Zyziphus*
5230	Arborescent matorral with *Laurus nobilis*
5310	Laurus nobilis thickets
5320	Low formations of *Euphorbia* close to cliffs
5330	Thermo-Mediterranean and pre-desert scrub
5410	West Mediterranean clifftop phryganas (*Astragalo-Plantaginetum subulatae*)
5420	*Sarcopoterium spinosum* phryganas
5430	Endemic phryganas of the *Euphorbio-Verbascion*

6. GROUP 6: ROCKY AND DUNE HABITATS

Habitat type code as referred to in Annex I of Council Directive 92/43/EEC	**Habitat type name as referred to in Annex I of Council Directive 92/43/EEC**
Sea cliffs, beaches, and islets	
1210	Annual vegetation of drift lines
1220	Perennial vegetation of stony banks
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts
1240	Vegetated sea cliffs of the Mediterranean coasts with endemic *Limonium* spp.
1250	Vegetated sea cliffs with endemic flora of the Macaronesian coasts

1610	Baltic esker islands with sandy, rocky and shingle beach vegetation and sublittoral vegetation
1620	Boreal Baltic islets and small islands
1640	Boreal Baltic sandy beaches with perennial vegetation
Coastal and inland dunes	
2110	Embryonic shifting dunes
2120	Shifting dunes along the shoreline with *Ammophila arenaria* (‘white dunes’)
2130	Fixed coastal dunes with herbaceous vegetation (“grey dunes’)
2140	Decalcified fixed dunes with *Empetrum nigrum*
2150	Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)
2160	Dunes with *Hippophaë rhamnoides*
2170	Dunes with *Salix repens* ssp. argentea (*Salicion arenariae*)
2180	Wooded dunes of the Atlantic, Continental and Boreal region
2190	Humid dune slacks
2210	Crucianellion maritimae fixed beach dunes
2220	Dunes with *Euphorbia terracina*
2230	*Malcolmietalia* dune grasslands
2240	*Brachypodietalia* dune grasslands with annuals
2250	Coastal dunes with *Juniperus* spp.
2260	*Cisto-Lavenduletalia* dune sclerophyllous scrubs
2270	Wooded dunes with *Pinus pinea* and/or *Pinus pinaster*
2310	Dry sand heaths with *Calluna* and *Genista*
2320	Dry sand heaths with *Calluna* and *Empetrum nigrum*
2330	Inland dunes with open *Corynephorus* and *Agrostis* grasslands
2340	Pannonic inland dunes
91N0	Pannonic inland sand dune thicket (*Junipero-Populetum albae*)

Rocky habitats	
8110	Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)
8120	Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*)
8130	Western Mediterranean and thermophilous scree
8140	Eastern Mediterranean screes
8150	Medio-European upland siliceous screes
8160	Medio-European calcareous scree of hill and montane levels
8210	Calcareous rocky slopes with chasmophytic vegetation
8220	Siliceous rocky slopes with chasmophytic vegetation
8230	Siliceous rock with pioneer vegetation of the *Sedo-Scleranthion* or of the *Sedo albi-Veronicion dillenii*
8310	Caves not open to the public
8320	Fields of lava and natural excavations
8340	Permanent glaciers

ANNEX II
MARINE ECOSYSTEMS – HABITAT TYPES AND GROUPS OF HABITAT TYPES REFERRED TO IN ARTICLE 5(1) AND 5(2)

The list below includes the marine habitat types referred to in Article 5(1) and 5(2), as well as seven groups of those habitat types, namely 1) Seagrass beds, 2) Macroalgal forests, 3) Shellfish beds, 4) Maerl beds, 5) Sponge, coral and coralligenous beds, 6) Vents and seeps and 7) Soft sediments (above 1000 meters of depth). The relation with the habitat types listed in Annex I of Directive 92/43/EEC is also presented.

The classification of marine habitat types used, differentiated by marine biogeographical regions, is made according to the European nature information system (EUNIS), as revised for the marine habitats typology in 2022 by the European Environment Agency (EEA). The information on the related habitats listed in Annex I of Council Directive 92/43/EEC is based on the crosswalk published by the EEA in 2021[1].

1. GROUP 1: SEAGRASS BEDS

EUNIS code	EUNIS habitat type name	Related habitat type code as referred to in Annex I of Council Directive 92/43/EEC
Atlantic		
MA522	Seagrass beds on Atlantic littoral sand	1140; 1160
MA623	Seagrass beds on Atlantic littoral mud	1140; 1160
MB522	Seagrass beds on Atlantic infralittoral sand	1110; 1150; 1160
Baltic Sea		
MA332	Baltic hydrolittoral coarse sediment characterised by submerged vegetation	1130; 1160; 1610; 1620
MA432	Baltic hydrolittoral mixed sediment characterised by submerged vegetation	1130; 1140; 1160; 1610
MA532	Baltic hydrolittoral sand characterised by submerged rooted plants	1130; 1140; 1160; 1610
MA632	Baltic hydrolittoral mud dominated by submerged rooted plants	1130; 1140; 1160; 1650

[1] EUNIS marine habitat classification 2022. European Environment Agency.

MB332	Baltic infralittoral coarse sediment characterised by submerged rooted plants	1110; 1160
MB432	Baltic infralittoral mixed sediment characterised by submerged rooted plants	1110; 1160; 1650
MB532	Baltic infralittoral sand characterised by submerged rooted plants	1110; 1130; 1150; 1160
MB632	Baltic infralittoral mud sediment characterised by submerged rooted plants	1130; 1150; 1160; 1650
Black Sea		
MB546	Seagrass and rhizomatous algal meadows in Black Sea freshwater influenced infralittoral muddy sands	1110; 1130; 1160
MB547	Black Sea seagrass meadows on moderately exposed upper infralittoral clean sands	1110; 1160
MB548	Black Sea seagrass meadows on lower infralittoral sands	1110; 1160
Mediterranean Sea		
MB252	Biocenosis of *Posidonia oceanica*	1120
MB2521	Ecomorphosis of striped *Posidonia oceanica* meadows	1120; 1130; 1160
MB2522	Ecomorphosis of "barrier-reef" *Posidonia oceanica* meadows	1120; 1130; 1160
MB2523	Facies of dead "mattes" of *Posidonia oceanica* without much epiflora	1120; 1130; 1160
MB2524	Association with *Caulerpa prolifera* on *Posidonia* beds	1120; 1130; 1160
MB5521	Association with *Cymodocea nodosa* on well sorted fine sands	1110; 1130; 1160
MB5534	Association with *Cymodocea nodosa* on superficial muddy sands in sheltered waters	1110; 1130; 1160
MB5535	Association with *Zostera noltei* on superficial muddy sands in sheltered waters	1110; 1130; 1160
MB5541	Association with *Ruppia cirrhosa* and/or *Ruppia maritima* on sand	1110; 1130; 1160
MB5544	Association with *Zostera noltei* in euryhaline and eurythermal environment on sand	1110; 1130; 1160

MB5545	Association with *Zostera marina* in euryhaline and eurythermal environment	1110; 1130; 1160

2. GROUP 2: MACROALGAL FORESTS

EUNIS code	EUNIS habitat type name	Related Annex I (Habitats Directive) codes
Atlantic		
MA123	Seaweed communities on full salinity Atlantic littoral rock	1160; 1170; 1130
MA125	Fucoids on variable salinity Atlantic littoral rock	1170; 1130
MB121	Kelp and seaweed communities on Atlantic infralittoral rock	1170; 1160
MB123	Kelp and seaweed communities on sediment-affected or disturbed Atlantic infralittoral rock	1170; 1160
MB124	Kelp communities on variable salinity Atlantic infralittoral rock	1170; 1130; 1160
MB321	Kelp and seaweed communities on Atlantic infralittoral coarse sediment	1160
MB521	Kelp and seaweed communities on Atlantic infralittoral sand	1160
MB621	Vegetated communities on Atlantic infralittoral mud	1160
Baltic Sea		
MA131	Baltic hydrolittoral rock and boulders characterised by perennial algae	1160; 1170; 1130; 1610; 1620
MB131	Perennial algae on Baltic infralittoral rock and boulders	1170; 1160
MB232	Baltic infralittoral bottoms characterised by shell gravel	1160; 1110
MB333	Baltic infralittoral coarse sediment characterised by perennial algae	1110; 1160
MB433	Baltic infralittoral mixed sediment characterised by perennial algae	1110; 1130; 1160; 1170
Black Sea		
MB144	Mytilid-dominated Black Sea exposed upper infralittoral rock with fucales	1170; 1160

MB149	Mytilid-dominated Black Sea moderately exposed upper infralittoral rock with fucales	1170; 1160
MB14A	Fucales and other algae on Black Sea sheltered upper infralittoral rock, well illuminated	1170; 1160
Mediterranean Sea		
MA1548	Association with *Fucus virsoides*	1160; 1170
MB1512	Association with *Cystoseira tamariscifolia* and *Saccorhiza polyschides*	1170; 1160
MB1513	Association with *Cystoseira amentacea* (var. *amentacea*, var. *stricta*, var. *spicata*)	1170; 1160
MB151F	Association with *Cystoseira brachycarpa*	1170; 1160
MB151G	Association with *Cystoseira crinita*	1170; 1160
MB151H	Association with *Cystoseira crinitophylla*	1170; 1160
MB151J	Association with *Cystoseira sauvageauana*	1170; 1160
MB151K	Association with *Cystoseira spinosa*	1170; 1160
MB151L	Association with *Sargassum vulgare*	1170; 1160
MB151M	Association with *Dictyopteris polypodioides*	1170; 1160
MB151W	Association with *Cystoseira compressa*	1170; 1160
MB1524	Association with *Cystoseira barbata*	1170; 1160
MC1511	Association with *Cystoseira zosteroides*	1170; 1160
MC1512	Association with *Cystoseira usneoides*	1170; 1160
MC1513	Association with *Cystoseira dubia*	1170; 1160
MC1514	Association with *Cystoseira corniculata*	1170; 1160
MC1515	Association with *Sargassum* spp.	1170; 1160
MC1518	Association with *Laminaria ochroleuca*	1170; 1160
MC3517	Association with *Laminaria rodriguezii* on detritic beds	1160

3. GROUP 3: SHELLFISH BEDS

EUNIS code	EUNIS habitat type name	Related Annex I (Habitats Directive) codes
Atlantic		
MA122	*Mytilus edulis* and/or barnacle communities on wave-exposed Atlantic littoral rock	1160; 1170
MA124	Mussel and/or barnacle communities with seaweeds on Atlantic littoral rock	1160; 1170
MA227	Bivalve reefs in the Atlantic littoral zone	1170; 1140
MB222	Bivalve reefs in the Atlantic infralittoral zone	1170; 1130; 1160
MC223	Bivalve reefs in the Atlantic circalittoral zone	1170
Baltic Sea		
MB231	Baltic infralittoral bottoms dominated by epibenthic bivalves	1170; 1160
MC231	Baltic circalittoral bottoms dominated by epibenthic bivalves	1170; 1160; 1110
MD231	Baltic offshore circalittoral biogenic bottoms characterised by epibenthic bivalves	1170
MD232	Baltic offshore circalittoral shell gravel bottoms characterised by bivalves	1170
MD431	Baltic offshore circalittoral mixed bottoms characterised by macroscopic epibenthic biotic structures	
MD531	Baltic offshore circalittoral sand characterised by macroscopic epibenthic biotic structures	
MD631	Baltic offshore circalittoral mud characterised by epibenthic bivalves	
Black Sea		
MB141	Invertebrate-dominated Black Sea lower infralittoral rock	1170
MB143	Mytilid-dominated Black Sea exposed upper infralittoral rock with foliose algae (no Fucales)	1170; 1160
MB148	Mytilid-dominated Black Sea moderately exposed upper infralittoral rock with foliose algae (other than Fucales)	1170; 1160
MB242	Mussel beds in the Black Sea infralittoral zone	1170; 1130; 1160

MB243	Oyster reefs on Black Sea lower infralittoral rock	1170
MB642	Black Sea infralittoral terrigenous muds	1160
MC141	Invertebrate-dominated Black Sea circalittoral rock	1170
MC241	Mussel beds on Black Sea circalittoral terrigenous muds	1170
MC645	Black Sea lower circalittoral mud	
Mediterranean Sea		
MA1544	Facies with *Mytilus galloprovincialis* in waters enriched in organic matter	1160; 1170
MB1514	Facies with *Mytilus galloprovincialis*	1170; 1160

4. GROUP 4: MAERL BEDS

EUNIS code	**EUNIS habitat type name**	**Related Annex I (Habitats Directive) codes**
Atlantic		
MB322	Maerl beds on Atlantic infralittoral coarse sediment	1110; 1160
MB421	Maerl beds on Atlantic infralittoral mixed sediment	1110; 1160
MB622	Maerl beds on Atlantic infralittoral muddy sediment	1110; 1160
Mediterranean Sea		
MB3511	Association with rhodolithes in coarse sands and fine gravels mixed by waves	1110; 1160
MB3521	Association with rhodolithes in coarse sands and fine gravels under the influence of bottom currents	1110; 1160
MB3522	Association with maerl (= Association with *Lithothamnion corallioides* and *Phymatolithon calcareum*) on Mediterranean coarse sands and gravel	1110; 1160
MC3521	Association with rhodolithes on coastal detritic bottoms	1110
MC3523	Association with maerl (*Lithothamnion corallioides* and *Phymatholithon calcareum*) on coastal dendritic bottoms	1110

5. GROUP 5: SPONGE, CORAL AND CORALLIGENOUS BEDS

EUNIS code	EUNIS habitat type name	Related Annex I (Habitats Directive) codes
Atlantic		
MC121	Faunal turf communities on Atlantic circalittoral rock	1170
MC124	Faunal communities on variable salinity Atlantic circalittoral rock	1170; 1130
MC126	Communities of Atlantic circalittoral caves and overhangs	8330; 1170
MC222	Cold water coral reefs in the Atlantic circalittoral zone	1170
MD121	Sponge communities on Atlantic offshore circalittoral rock	1170
MD221	Cold water coral reefs in the Atlantic offshore circalittoral zone	1170
ME122	Sponge communities on Atlantic upper bathyal rock	1170
ME123	Mixed cold water coral communities on Atlantic upper bathyal rock	1170
ME221	Atlantic upper bathyal cold water coral reef	1170
ME322	Mixed cold water coral community on Atlantic upper bathyal coarse sediment	
ME324	Sponge aggregation on Atlantic upper bathyal coarse sediment	
ME422	Sponge aggregation on Atlantic upper bathyal mixed sediment	
ME623	Sponge aggregation on Atlantic upper bathyal mud	
ME624	Erect coral field on Atlantic upper bathyal mud	
MF121	Mixed cold water coral community on Atlantic lower bathyal rock	1170
MF221	Atlantic lower bathyal cold water coral reef	1170
MF321	Mixed cold water coral community on Atlantic lower bathyal coarse sediment	
MF622	Sponge aggregation on Atlantic lower bathyal mud	

MF623	Erect coral field on Atlantic lower bathyal mud	
Baltic Sea		
MB138	Baltic infralittoral rock and boulders characterized by epibenthic sponges	1170; 1160
MB43A	Baltic infralittoral mixed sediment characterized by epibenthic sponges (Porifera)	1160; 1170
MC133	Baltic circalittoral rock and boulders characterized by epibenthic cnidarians	1170; 1160
MC136	Baltic circalittoral rock and boulders characterized by epibenthic sponges	1170; 1160
MC433	Baltic circalittoral mixed sediment characterized by epibenthic cnidarians	1160; 1170
MC436	Baltic circalittoral mixed sediment characterized by epibenthic sponges	1160
Black Sea		
MD24	Black Sea offshore circalittoral biogenic habitats	1170
ME14	Black Sea upper bathyal rock	1170
ME24	Black Sea upper bathyal biogenic habitat	1170
MF14	Black Sea lower bathyal rock	1170
Mediterranean Sea		
MB151E	Facies with *Cladocora caespitosa*	1170; 1160
MB151Q	Facies with *Astroides calycularis*	1170; 1160
MB151α	Facies and association of coralligenous biocenosis (in enclave)	1170; 1160
MC1519	Facies with *Eunicella cavolini*	1170; 1160
MC151A	Facies with *Eunicella singularis*	1170; 1160
MC151B	Facies with *Paramuricea clavata*	1170; 1160
MC151E	Facies with *Leptogorgia sarmentosa*	1170; 1160
MC151F	Facies with *Anthipatella subpinnata* and sparse red algae	1170; 1160
MC151G	Facies with massive sponges and sparse red algae	1170; 1160

MC1522	Facies with *Corallium rubrum*	8330; 1170
MC1523	Facies with *Leptopsammia pruvoti*	8330; 1170
MC251	Coralligenous platforms	1170
MC6514	Facies of sticky muds with *Alcyonium palmatum* and *Parastichopus regalis* on circalittoral mud	1160
MD151	Biocenosis of Mediterranean shelf-edge rock	1170
MD25	Mediterranean offshore circalittoral biogenic habitats	1170
MD6512	Facies of sticky muds with *Alcyonium palmatum* and *Parastichopus regalis* on lower circalittoral mud	
ME1511	Mediterranean upper bathyal *Lophelia pertusa* reefs	1170
ME1512	Mediterranean upper bathyal *Madrepora oculata* reefs	1170
ME1513	Mediterranean upper bathyal *Madrepora oculata* and *Lophelia pertusa* reefs	1170
ME6514	Mediterranean upper bathyal facies of with *Pheronema carpenteri*	
MF1511	Mediterranean lower bathyal *Lophelia pertusa* reefs	1170
MF1512	Mediterranean lower bathyal *Madrepora oculata* reefs	1170
MF1513	Mediterranean lower bathyal *Madrepora oculata* and *Lophelia pertusa* reefs	1170
MF6511	Mediterranean lower bathyal facies of sandy muds with *Thenea muricata*	
MF6513	Mediterranean lower bathyal facies of compact muds with *Isidella elongata*	

6. GROUP 6: VENTS AND SEEPS

EUNIS code	**EUNIS habitat type name**	**Related Annex I (Habitats Directive) codes**
Atlantic		
MB128	Vents and seeps in Atlantic infralittoral rock	1170; 1160; 1180
MB627	Vents and seeps in Atlantic infralittoral mud	1130; 1160

MC127	Vents and seeps in Atlantic circalittoral rock	1170; 1180
MC622	Vents and seeps in Atlantic circalittoral mud	1160
MD122	Vents and seeps on Atlantic offshore circalittoral rock	1170
MD622	Vents and seeps in Atlantic offshore circalittoral mud	

7. GROUP 7: SOFT SEDIMENTS (ABOVE 1000 METERS OF DEPTH)

EUNIS code	EUNIS habitat type name	Related Annex I (Habitats Directive) codes
Atlantic		
MA32	Atlantic littoral coarse sediment	1130; 1160
MA42	Atlantic littoral mixed sediment	1130; 1140; 1160
MA52	Atlantic littoral sand	1130; 1140; 1160
MA62	Atlantic littoral mud	1130; 1140; 1160
MB32	Atlantic infralittoral coarse sediment	1110; 1130; 1160
MB42	Atlantic infralittoral mixed sediment	1110; 1130; 1150; 1160
MB52	Atlantic infralittoral sand	1110; 1130; 1150; 1160
MB62	Atlantic infralittoral mud	1110; 1130; 1160
MC32	Atlantic circalittoral coarse sediment	1110; 1160
MC42	Atlantic circalittoral mixed sediment	1110; 1160
MC52	Atlantic circalittoral sand	1110; 1160
MC62	Atlantic circalittoral mud	1160
MD32	Atlantic offshore circalittoral coarse sediment	
MD42	Atlantic offshore circalittoral mixed sediment	
MD52	Atlantic offshore circalittoral sand	
MD62	Atlantic offshore circalittoral mud	
ME32	Atlantic upper bathyal coarse sediment	

ME42	Atlantic upper bathyal mixed sediment	
ME52	Atlantic upper bathyal sand	
ME62	Atlantic upper bathyal mud	
MF32	Atlantic lower bathyal coarse sediment	
MF42	Atlantic lower bathyal mixed sediment	
MF52	Atlantic lower bathyal sand	
MF62	Atlantic lower bathyal mud	
Baltic Sea		
MA33	Baltic hydrolittoral coarse sediment	1130; 1160; 1610; 1620
MA43	Baltic hydrolittoral mixed sediment	1130; 1140; 1160; 1610
MA53	Baltic hydrolittoral sand	1130; 1140; 1160; 1610
MA63	Baltic hydrolittoral mud	1130; 1140; 1160; 1650
MB33	Baltic infralittoral coarse sediment	1110; 1150; 1160
MB43	Baltic infralittoral mixed sediment	1110; 1130; 1150; 1160; 1170; 1650
MB53	Baltic infralittoral sand	1110; 1130; 1150; 1160
MB63	Baltic infralittoral mud	1130; 1150; 1160; 1650
MC33	Baltic circalittoral coarse sediment	1110; 1160
MC43	Baltic circalittoral mixed sediment	1160; 1170
MC53	Baltic circalittoral sand	1110; 1160
MC63	Baltic circalittoral mud	1160; 1650
MD33	Baltic offshore circalittoral coarse sediment	
MD43	Baltic offshore circalittoral mixed sediment	
MD53	Baltic offshore circalittoral sand	

MD63	Baltic offshore circalittoral mud	
Black Sea		
MA34	Black Sea littoral coarse sediment	1160
MA44	Black Sea littoral mixed sediment	1130; 1140; 1160
MA54	Black Sea littoral sand	1130; 1140; 1160
MA64	Black Sea littoral mud	1130; 1140; 1160
MB34	Black Sea infralittoral coarse sediment	1110; 1160
MB44	Black Sea infralittoral mixed sediment	1110; 1170
MB54	Black Sea infralittoral sand	1110; 1130; 1160
MB64	Black Sea infralittoral mud	1130; 1160
MC34	Black Sea circalittoral coarse sediment	1160
MC44	Black Sea circalittoral mixed sediment	
MC54	Black Sea circalittoral sand	1160
MC64	Black Sea circalittoral mud	1130; 1160
MD34	Black Sea offshore circalittoral coarse sediment	
MD44	Black Sea offshore circalittoral mixed sediment	
MD54	Black Sea offshore circalittoral sand	
MD64	Black Sea offshore circalittoral mud	
Mediterranean Sea		
MA35	Mediterranean littoral coarse sediment	1160; 1130
MA45	Mediterranean littoral mixed sediment	1140; 1160
MA55	Mediterranean littoral sand	1130; 1140; 1160
MA65	Mediterranean littoral mud	1130; 1140; 1150; 1160
MB35	Mediterranean infralittoral coarse sediment	1110; 1160
MB45	Mediterranean infralittoral mixed sediment	

MB55	Mediterranean infralittoral sand	1110; 1130; 1150; 1160
MB65	Mediterranean infralittoral mud	1130; 1150
MC35	Mediterranean circalittoral coarse sediment	1110; 1160
MC45	Mediterranean circalittoral mixed sediment	
MC55	Mediterranean circalittoral sand	1110; 1160
MC65	Mediterranean circalittoral mud	1130; 1160
MD35	Mediterranean offshore circalittoral coarse sediment	
MD45	Mediterranean offshore circalittoral mixed sediment	
MD55	Mediterranean offshore circalittoral sand	
MD65	Mediterranean offshore circalittoral mud	
ME35	Mediterranean upper bathyal coarse sediment	
ME45	Mediterranean upper bathyal mixed sediment	
ME55	Mediterranean upper bathyal sand	
ME65	Mediterranean upper bathyal mud	
MF35	Mediterranean lower bathyal coarse sediment	
MF45	Mediterranean lower bathyal mixed sediment	
MF55	Mediterranean lower bathyal sand	
MF65	Mediterranean lower bathyal mud	

ANNEX III

MARINE SPECIES REFERRED TO IN ARTICLE 5(3)

(1) narrow sawfish (*Anoxypristis cuspidata*);

(2) dwarf sawfish (*Pristis clavata*);

(3) smalltooth sawfish (*Pristis pectinata*);

(4) largetooth sawfish (*Pristis pristis*);

(5) green sawfish (*Pristis zijsron*);

(6) basking shark (*Cetorhinus maximus*) and white shark (*Carcharodon carcharias*);

(7) smooth lantern shark (*Etmopterus pusillus*);

(8) reef manta ray (*Manta alfredi*);

(9) giant manta ray (*Manta birostris*);

(10) devil fish (*Mobula mobular*);

(11) lesser Guinean devil ray (*Mobula rochebrunei*);

(12) spinetail mobula (*Mobula japanica*);

(13) smoothtail mobula (*Mobula thurstoni*);

(14) longhorned mobula (*Mobula eregoodootenkee*);

(15) Munk's devil ray (*Mobula munkiana*);

(16) Chilean devil ray (*Mobula tarapacana*);

(17) shortfin devil ray (*Mobula kuhlii*);

(18) lesser devil ray (*Mobula hypostoma*);

(19) Norwegian skate (*Raja (Dipturus) nidarosiensis*);

(20) white skate (*Raja alba*);

(21) guitarfishes (*Rhinobatidae*);

(22) angel shark (*Squatina squatina*);

(23) salmon (*Salmo salar*);

(24) sea trout (*Salmo trutta*);

(25) houting (*Coregonus oxyrhynchus*).

ANNEX IV

LIST OF BIODIVERSITY INDICATORS FOR AGRICULTURAL ECOSYSTEMS REFERRED TO IN ARTICLE 9(2)

Indicator	Description, units, and methodology for determining and monitoring the indicator
Grassland butterfly index	**Description:** This indicator is composed of species considered to be characteristic of European grasslands and which occur in a large part of Europe, covered by the majority of the Butterfly Monitoring Schemes. It is based on the geometric mean of species trends. **Unit**: Index. **Methodology:** as developed and used by Butterfly Conservation Europe, Van Swaay, C.A.M, *Assessing Butterflies in Europe - Butterfly Indicators 1990-2018,* Technical report, Butterfly Conservation Europe, 2020.
Stock of organic carbon in cropland mineral soils	**Description**: This indicator describes the stock of organic carbon in cropland mineral soils at a depth of 0 to 30 cm. **Unit**: tonnes of organic carbon/ha. **Methodology:** as set out in Annex V of Regulation 2018/1999 in accordance to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, and as supported by the Land Use and Coverage Area frame Survey (LUCAS) Soil, Jones A. et al., *LUCAS Soil 2022,* JRC technical report, Publications Office of the European Union, 2021.
Share of agricultural land with high-diversity landscape features	**Description:** High-diversity landscape features are elements of permanent natural or semi-natural vegetation present in an agricultural context which provide ecosystem services and support for biodiversity. In order to do so, landscape features need to be subject to as little external disturbances as possible to provide safe habitats for various taxa, and therefore need to comply with the following conditions: a) they cannot be under productive agricultural use (including grazing or fodder production), and b) they should not receive fertilizer or pesticide treatment. Land lying fallow can be considered as high diversity landscape features if it complies with criteria (a) and (b) above. Productive trees part of arable land agroforestry systems and productive elements in non-productive hedges can also be considered as high diversity landscape features, if they comply with criterion (b) above, and if harvests take place only at moments where it would not compromise high biodiversity levels. **Unit:** Percent (share of Utilised Agricultural Area). **Methodology:** as developed under indicator I.21, Annex I of Regulation 2021/2115, as based on LUCAS for landscape elements, Ballin M. et al., *Redesign sample for Land Use/Cover Area frame Survey (LUCAS)*, Eurostat 2018, and for land laying fallow, *Farm Structure,*

	Reference Metadata in Single Integrated Metadata Structure, online publication, Eurostat.

ANNEX V

COMMON FARMLAND BIRD INDEX AT NATIONAL LEVEL

Description

The Farmland Bird Index (FBI) summarises population trends of common and widespread birds of farmland and is intended as a proxy to assess the biodiversity status of agricultural ecosystems in Europe. The national FBI is a composite, multispecies index that measures the rate of change in the relative abundance of farmland bird species across selected survey sites at national level. The index is based on specially selected species that are dependent on farmland habitats for feeding and or nesting. National common farmland bird indices are based on species sets that are relevant to each Member State. The index is calculated with reference to a base year when the index value is typically set at 100. Trend values express the overall population change in the population size of the constituent farmland birds over a period of years.

Methodology: Brlík et al. (2021): Long-term and large-scale multispecies dataset tracking population changes of common European breeding birds. Sci Data 8, 21. https://doi.org/10.1038/s41597-021-00804-2

"Member States with historically more depleted populations of farmland birds" means Member States where half or more species contributing to the national common farmland bird index have a negative long-term population trend. In Member States, where information on long-term population trends is not available for some species, information on the European status of species is used.

These Member States are:

Czechia

Denmark

Estonia

Finland

France

Germany

Hungary

Italy

Luxembourg

Netherlands

Spain

"Member States with historically less depleted populations of farmland birds" means Member States where less than half of species contributing to the national common farmland bird

index have a negative long-term population trend. In Member States, where information on long-term population trends is not available for some species, information on the European status of species is used.

These Member States are:

Austria

Belgium

Bulgaria

Croatia

Cyprus

Greece

Ireland

Latvia

Lithuania

Malta

Poland

Portugal

Romania

Slovakia

Slovenia

Sweden

List of species used for the common farmland bird index in the Member States

Austria
Acrocephalus palustris
Alauda arvensis
Anthus spinoletta
Anthus trivialis
Carduelis cannabina
Carduelis carduelis
Emberiza citrinella
Falco tinnunculus
Jynx torquilla
Lanius collurio
Lullula arborea
Miliaria calandra
Oenanthe oenanthe
Passer montanus
Perdix perdix

Saxicola rubetra
Saxicola torquatus
Serinus citrinella
Serinus serinus
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Turdus pilaris
Vanellus vanellus

Belgium - Flanders	**Belgium - Wallonia**
Alauda arvensis	*Alauda arvensis*
Anthus pratensis	*Anthus pratensis*
Emberiza citrinella	*Carduelis cannabina*
Falco tinnunculus	*Corvus frugilegus*
Haematopus ostralegus	*Emberiza citrinella*
Hippolais icterina	*Falco tinnunculus*
Hirundo rustica	*Hirundo rustica*
Limosa limosa	*Lanius collurio*
Linaria cannabina	*Miliaria calandra*
Motacilla alba	*Motacilla flava*
Motacilla flava	*Passer montanus*
Numenius arquata	*Perdix perdix*
Passer montanus	*Saxicola torquatus*
Perdix perdix	*Streptopelia turtur*
Phoenicurus ochruros	*Sturnus vulgaris*
Saxicola torquatus	*Sylvia communis*
Sylvia communis	*Vanellus vanellus*
Vanellus vanellus	

Bulgaria
Alauda arvensis
Carduelis carduelis
Carduelis cannabina
Coturnix coturnix
Corvus frugilegus
Emberiza hortulana
Emberiza melanocephala
Falco tinnunculus
Galerida cristata
Hirundo rustica
Lanius collurio
Miliaria calandra
Motacilla flava

Perdix perdix
Passer montanus
Sylvia communis
Streptopelia turtur
Sturnus vulgaris
Upupa epops

Croatia
Alauda arvensis
Anthus campestris
Anthus trivialis
Carduelis cannabina
Carduelis carduelis
Coturnix coturnix
Emberiza cirlus
Emberiza citrinella
Emberiza melanocephala
Falco tinnunculus
Galerida cristata
Jynx torquilla
Lanius collurio
Lanius senator
Lullula arborea
Luscinia megarhynchos
Miliaria calandra
Motacilla flava
Oenanthe hispanica
Oriolus oriolus
Passer montanus
Pica pica
Saxicola rubetra
Saxicola torquatus
Streptopelia turtur
Sylvia communis
Upupa epops
Vanellus vanellus

Cyprus
Alectoris chukar
Athene noctua
Carduelis carduelis
Cisticola juncidis
Clamator glandarius
Columba palumbus
Coracias garrulus

Corvus corone cornix
Coturnix coturnix
Emberiza calandra
Emberiza melanocephala
Falco tinnunculus
Francolinus francolinus
Galerida cristata
Hirundo rustica
Chloris chloris
Iduna pallida
Linaria cannabina
Oenanthe cypriaca
Parus major
Passer hispaniolensis
Pica pica
Streptopelia turtur
Sylvia conspicillata
Sylvia melanocephala

Czechia
Alauda arvensis
Anthus pratensis
Carduelis cannabina
Ciconia ciconia
Corvus frugilegus
Emberiza citrinella
Falco tinnunculus
Hirundo rustica
Lanius collurio
Miliaria calandra
Motacilla flava
Passer montanus
Perdix perdix
Saxicola rubetra
Saxicola torquatus
Serinus serinus
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Vanellus vanellus

Denmark

Alauda arvensis
Anthus pratensis
Carduelis cannabina
Carduelis carduelis
Corvus corone
Corvus frugilegus
Emberiza citrinella
Falco tinnunculus
Gallinago gallinago
Hirundo rustica
Lanius collurio
Miliaria calandra
Motacilla alba
Motacilla flava
Oenanthe oenanthe
Passer montanus
Perdix perdix
Saxicola rubetra
Sylvia communis
Sylvia curruca
Turdus pilaris
Vanellus vanellus

Estonia
Alauda arvensis
Anthus pratensis
Corvus frugilegus
Emberiza citrinella
Hirundo rustica
Lanius collurio
Linaria cannabina
Motacilla flava
Passer montanus
Saxicola rubetra
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Vanellus vanellus
Alauda arvensis
Anthus pratensis
Corvus frugilegus
Emberiza citrinella
Hirundo rustica

Lanius collurio
Linaria cannabina
Motacilla flava
Passer montanus
Saxicola rubetra
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Vanellus vanellus
Alauda arvensis
Anthus pratensis
Corvus frugilegus
Emberiza citrinella
Hirundo rustica
Lanius collurio
Linaria cannabina
Motacilla flava
Passer montanus
Saxicola rubetra
Streptopelia turtur

Finland
Alauda arvensis
Anthus pratensis
Corvus monedula
Crex crex
Delichon urbica
Emberiza hortulana
Hirundo rustica
Numenius arquata
Passer montanus
Saxicola rubertra
Sturnus vulgaris
Sylvia communis
Turdus pilaris
Vanellus vanellus

France
Alauda arvensis
Alectoris rufa
Anthus campestris
Anthus pratensis
Buteo buteo
Carduelis cannabina
Corvus frugilegus

Coturnix coturnix
Emberiza cirlus
Emberiza citrinella
Emberiza hortulana
Falco tinnunculus
Galerida cristata
Lanius collurio
Lullula arborea
Melanocorypha calandra
Motacilla flava
Oenanthe oenanthe
Perdix perdix
Saxicola torquatus
Saxicola rubetra
Sylvia communis
Upupa epops
Vanellus vanellus

Germany
Alauda arvensis
Athene noctua
Emberiza citrinella
Lanius collurio
Limosa limosa
Lullula arborea
Miliaria calandra
Milvus milvus
Saxicola rubetra
Vanellus vanellus

Greece
Alauda arvensis
Apus apus
Athene noctua
Calandrella brachydactyla
Carduelis cannabina
Carduelis carduelis
Carduelis chloris
Ciconia ciconia
Corvus corone
Corvus monedula
Delichon urbicum
Emberiza cirlus
Emberiza hortulana
Emberiza melanocephala

Falco naumanni
Falco tinnunculus
Galerida cristata
Hirundo daurica
Hirundo rustica
Lanius collurio
Lanius minor
Lanius senator
Lullula arborea
Luscinia megarhynchos
Melanocorypha calandra
Miliaria calandra
Motacilla flava
Oenanthe hispanica
Oenanthe oenanthe
Passer domesticus
Passer hispaniolensis
Passer montanus
Pica pica
Saxicola rubetra
Saxicola torquatus
Streptopelia decaocto
Streptopelia turtur
Sturnus vulgaris
Sylvia melanocephala
Upupa epops

Hungary
Alauda arvensis
Anthus campestris
Coturnix coturnix
Emberiza calandra
Falco tinnunculus
Galerida cristata
Lanius collurio
Lanius minor
Locustella naevia
Merops apiaster
Motacilla flava
Perdix perdix
Sturnus vulgaris
Sylvia communis
Sylvia nisoria
Vanellus vanellus

Ireland
Carduelis cannabina
Carduelis carduelis
Columba oenas
Columba palumbus
Corvus cornix
Corvus frugilegus
Corvus monedula
Emberiza citrinella
Falco tinnunculus
Fringilla coelebs
Hirundo rustica
Chloris chloris
Motacilla alba
Passer domesticus
Phasianus colchicus
Pica pica
Saxicola torquatus
Sturnus vulgaris

Italy
Alauda arvensis
Anthus campestris
Calandrella brachydactyla
Carduelis carduelis
Carduelis chloris
Corvus cornix
Emberiza calandra
Emberiza hortulana
Falco tinnunculus
Galerida cristata
Hirundo rustica
Jynx torquilla
Lanius collurio
Luscinia megarhynchos
Melanocorypha calandra
Motacilla alba
Motacilla flava
Oriolus oriolus
Passer domesticus italiae
Passer hispaniolensis
Passer montanus
Pica pica
Saxicola torquatus
Serinus serinus

Streptopelia turtur
Sturnus unicolor
Sturnus vulgaris
Upupa epops

Latvia
Acrocephalus palustris
Alauda arvensis
Anthus pratensis
Carduelis carduelis
Carpodacus erythrinus
Ciconia ciconia
Crex crex
Emberiza citrinella
Lanius collurio
Locustella naevia
Motacilla flava
Passer montanus
Saxicola rubetra
Sturnus vulgaris
Sylvia communis
Vanellus vanellus

Lithuania
Alauda arvensis
Anthus pratensis
Carduelis carduelis
Ciconia ciconia
Crex crex
Emberiza citrinella
Hirundo rustica
Lanius collurio
Motacilla flava
Passer montanus
Saxicola rubetra
Sturnus vulgaris
Sylvia communis
Vanellus vanellus

Luxembourg
Alauda arvensis
Carduelis cannabina
Emberiza citrinella
Lanius collurio

Passer montanus
Saxicola torquatus
Sylvia communis

Malta
Calandrella brachydactyla
Linaria cannabina
Cettia cetti
Cisticola juncidis
Coturnix coturnix
Emberiza calandra
Lanius senator
Monticola solitarius
Passer hispaniolensis
Passer montanus
Serinus serinus
Streptopelia decaocto
Streptopelia turtur
Sturnus vulgaris
Sylvia conspicillata
Sylvia melanocephala

Netherlands
Alauda arvensis
Anthus pratensis
Athene noctua
Calidris pugnax
Carduelis carduelis
Corvus frugilegus
Coturnix coturnix
Emberiza citrinella
Falco tinnunculus
Gallinago gallinago
Haematopus ostralegus
Hippolais icterina
Hirundo rustica
Limosa limosa
Miliaria calandra
Motacilla fl ava
Numenius arquata
Passer montanus
Perdix perdix

Saxicola torquatus
Spatula clypeata
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Tringa totanus
Turdus viscivorus
Vanellus vanellus

Poland
Alauda arvensis
Anthus pratensis
Carduelis cannabina
Ciconia ciconia
Emberiza citrinella
Emberiza hortulana
Falco tinnunculus
Galerida cristata
Hirundo rustica
Lanius collurio
Limosa limosa
Miliaria calandra
Motacilla flava
Passer montanus
Saxicola torquatus
Saxicola rubetra
Serinus serinus
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Upupa epops
Vanellus vanellus

Portugal
Athene noctua
Bubulcus ibis
Carduelis carduelis
Chloris chloris
Ciconia ciconia
Cisticola juncidis
Coturnix coturnix

Delichon urbicum
Emberiza cirlus
Falco tinnunculus
Galerida cristata
Hirundo rustica
Lanius meridionalis
Linaria cannabina
Merops apiaster
Miliaria calandra
Milvus migrans
Passer domesticus
Pica pica
Saxicola torquatus
Serinus serinus
Sturnus unicolor
Upupa epops

Romania
Alauda arvensis
Anthus campestris
Calandrella brachydactyla
Ciconia ciconia
Corvus frugilegus
Emberiza calandra
Emberiza citrinella
Emberiza hortulana
Emberiza melanocephala
Falco tinnunculus
Galerida cristata
Hirundo rustica
Lanius collurio
Lanius minor
Linaria cannabina
Melanocorypha calandra
Motacilla flava
Passer montanus
Perdix perdix
Saxicola rubetra
Saxicola torquatus
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Upupa epops

Vanellus vanellus

Slovakia
Alauda arvensis
Carduelis cannabina
Carduelis carduelis
Emberiza calandra
Emberiza citrinella
Falco tinnunculus
Hirundo rustica
Chloris chloris
Lanius collurio
Locustella naevia
Motacilla flava
Passer montanus
Saxicola rubetra
Saxicola torquatus
Serinus serinus
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Sylvia nisoria
Vanellus vanellus

Slovenia
Acrocephalus palustris
Alauda arvensis
Anthus trivialis
Carduelis cannabina
Carduelis carduelis
Columba oenas
Columba palumbus
Emberiza calandra
Emberiza cirlus
Emberiza citrinella
Falco tinnunculus
Galerida cristata
Hirundo rustica
Jynx torquilla
Lanius collurio
Lullula arborea
Luscinia megarhynchos
Motacilla flava
Passer montanus

Phoenicurus phoenicurus
Picus viridis
Saxicola rubetra
Saxicola torquatus
Serinus serinus
Streptopelia turtur
Sturnus vulgaris
Sylvia communis
Upupa epops
Vanellus vanellus

Spain
Alauda arvensis
Alectoris rufa
Athene noctua
Calandrella brachydactyla
Carduelis carduelis
Cisticola juncidis
Corvus monedula
Coturnix coturnix
Emberiza calandra
Falco tinnunculus
Galerida cristata
Hirundo rustica
Linaria cannabina
Melanocorypha calandra
Merops apiaster
Oenanthe hispanica
Passer domesticus
Passer montanus
Pica pica
Pterocles orientalis
Streptopelia turtur
Sturnus unicolor
Tetrax tetrax
Upupa epops

Sweden
Alauda arvensis
Anthus pratensis
Carduelis cannabina
Corvus frugilegus
Emberiza citrinella
Emberiza hortulana

Falco tinnunculus
Hirundo rustica
Lanius collurio
Motacilla fl ava
Passer montanus
Saxicola rubetra
Sturnus vulgaris
Sylvia communis
Vanellus vanellus

ANNEX VI

LIST OF BIODIVERSITY INDICATORS FOR FOREST ECOSYSTEMS REFERRED TO IN ARTICLE 10(2)

Indicator	Description, unit, and methodology for determining and monitoring the indicator
Standing deadwood	**Description**: This indicator shows the amount of non-living standing woody biomass in forest and other wooded land. **Unit**: m^3/ha. **Methodology:** as developed and used by FOREST EUROPE, *State of Europe's Forests 2020,* FOREST EUROPE 2020, and in the description of national forest inventories in *Tomppo E. et al.,* National Forest Inventories, *Pathways for Common Reporting,* Springer, 2010, and taking into account the methodology as set out in Annex V of Regulation 2018/1999 in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Lying deadwood	**Description**: This indicator shows the amount of non-living woody biomass lying on the ground in forest and other wooded land. **Unit**: m^3/ha. **Methodology:** as developed and used by FOREST EUROPE, *State of Europe's Forests 2020,* FOREST EUROPE 2020, and in the description of national forest inventories in *Tomppo E. et al.,* National Forest Inventories, *Pathways for Common Reporting,* Springer, 2010, and taking into account the methodology as set out in Annex V of Regulation 2018/1999 in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Share of forests with uneven-aged structure	**Description:** This indicator refers to the share of forests available for wood supply (FAWS) with uneven-aged structure in forests as compared to even-aged structure in forests. **Unit:** Percent of FAWS with uneven-aged structure. **Methodology:** as developed and used by FOREST EUROPE, *State of Europe's Forests 2020,* FOREST EUROPE 2020, and in the description of national forest inventories in *Tomppo E. et al.,* National Forest Inventories, *Pathways for Common Reporting,* Springer, 2010.
Forest connectivity	**Description:** Forest connectivity is the degree of compactness of forest covered areas. It is defined in the range of 0 to 100. **Unit:** Index. **Methodology:** as developed by FAO, Vogt P., et al., *FAO – State of the World's Forests: Forest Fragmentation*, JRC Technical Report, Publications Office of the European Union, Luxembourg, 2019.

Common forest birds index	**Description:** The forest bird indicator describes trends in the abundance of common forest birds across their European ranges over time. It is a composite index created from observational data of bird species characteristic for forest habitats in Europe. The index is based on a specific list of species in each Member State. **Unit:** Index. **Methodology:** Brlík et al. *Long-term and large-scale multispecies dataset tracking population changes of common European breeding birds*, Sci Data 8, 21. 2021.
Stock of organic carbon	**Description**: This indicator describes the stock of organic carbon in the litter and in the mineral soil at a depth of 0 to 30 cm in forest ecosystems. **Unit**: tonnes organic carbon/ha. **Methodology:** as set out in Annex V of Regulation 2018/1999 in accordance to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, and as supported by the Land Use and Coverage Area frame Survey (LUCAS) Soil, Jones A. et al., *LUCAS Soil 2022,* JRC technical report, Publications Office of the European Union, 2021.

ANNEX VII

LIST OF EXAMPLES OF RESTORATION MEASURES REFERRED TO IN ARTICLE 11(8)

(1) Restore wetlands, by rewetting drained peatlands, removing peatland drainage structures or de-poldering and discontinuing peat excavation.

(2) Improve hydrological conditions by increasing quantity, quality and dynamics of surface waters and groundwater levels for natural and semi-natural ecosystems.

(3) Remove unwanted scrub encroachment or non-native plantations on grasslands, wetlands, forests and sparsely vegetated land.

(4) Apply paludiculture.

(5) Re-establish the meandering of rivers and reconnect artificially cut meanders or oxbow lakes.

(6) Remove longitudinal and lateral barriers (such as dikes and dams), give more space to river dynamics and restore free-flowing river stretches.

(7) Re-naturalise river beds and lakes and lowland watercourses by e.g. removing artificial bed fixation, optimising substrate composition, improving or developing habitat cover.

(8) Restore natural sedimentation processes.

(9) Establish riparian buffers, e.g. riparian forests, buffer strips, meadows or pastures.

(10) Increase ecological features in forests, such as large, old and dying trees (habitat trees) and amounts of lying and standing deadwood.

(11) Work towards a diversified forest structure in terms of vegetation and age, enable natural regeneration and succession of tree species.

(12) Enhance forest diversity by creating mosaics of non-forest habitats such as open patches of grassland or heathland, ponds or rocky areas.

(13) Make use of “close-to-nature” or “continuous cover” forestry approaches; introduce native tree species.

(14) Enhance the development of old-growth native forests and mature stands (e.g. by abandonment of harvesting).

(15) Introduce high-diversity landscape features in arable land and intensively used grassland, such as buffer strips, field margins with native flowers, hedgerows, trees, small forests, terrace walls, ponds, habitat corridors and stepping stones, etc.

(16) Increase the agricultural area subject to agro-ecological management approaches such as organic agriculture or agro-forestry, multicropping and crop rotation, integrated pest and nutrient management.

(17) Reduce grazing intensity or mowing regimes on grasslands where relevant and re-establish extensive grazing with domestic livestock and extensive mowing regimes where they were abandoned.

(18) Stop or reduce the use of chemical pesticides as well as chemical and animal manure fertilizers.

(19) Stop ploughing grassland and introducing seeds of productive grasses.

(20) Remove plantations on former dynamic inland dune systems to re-enable natural wind dynamics in favour of open habitats.

(21) Improve connectivity across habitats to enable the development of populations of species, and to allow for sufficient individual or genetic exchange as well as for species' migration and adaptation to climate change.

(22) Allow ecosystems to develop their own natural dynamics for example by abandoning harvesting and promoting naturalness, wilderness.

(23) Remove and control invasive alien species, and prevent or minimize new introductions.

(24) Minimise negative impacts of fishing activities on the marine ecosystem, for example by using gear with less impact on seabed.

(25) Restore important fish spawning and nursery areas.

(26) Provide structures or substrates to encourage the return of marine life, for example coral/oyster/boulder reefs.

(27) Restore seagrass meadows and kelp forests by actively stabilising the sea bottom, reducing and, where possible, eliminating pressures or by active propagation and planting.

(28) Reduce various forms of marine pollution, such as nutrient loading, noise pollution and plastic waste.

(29) Increase urban green spaces with ecological features, such as parks, trees and woodland patches with native species, green roofs, wildflower grasslands, gardens, city horticulture, tree-lined streets, urban meadows and hedges, ponds and watercourses.

(30) Stop, reduce or remediate pollution from pharmaceuticals, hazardous chemicals, urban and industrial wastewater, and other waste including litter and plastics as well as light in all ecosystems.

(31) Convert brownfield sites, former industrial areas and quarries into natural sites.