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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

GROUP OF EXPERTS ON PROTECTED AREAS AND ECOLOGICAL NETWORKS

**REVISED ANNEX I OF RESOLUTION 4 (1996) OF THE BERN
CONVENTION ON ENDANGERED NATURAL HABITAT TYPES
USING THE EUNIS HABITAT CLASSIFICATION**

*Document established by
the Directorate of Culture and Cultural and Natural Heritage
in collaboration with ETC/BD and Marc Roekaerts*

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ENDANGERED NATURAL HABITAT TYPES

<u>A</u>	<u>Marine habitats</u>
A1	Littoral rock and other hard substrata
A1.1	High energy littoral rock
! A1.11	Mussel and/or barnacle communities
A4.14	Mediterranean and Black Sea communities of lower mediolittoral rock very exposed to wave action
! A1.141	Association with [<i>Lithophyllum byssoides</i>]
A1.2	Moderate energy littoral rock
! A1.22	Mussels and fucoids on moderately exposed shores
A1.4	Features of littoral rock
! A1.44	Communities of littoral caves and overhangs
A2	Littoral sediment
! A2.2	Littoral sand and muddy sand
! A2.3	Littoral mud
! A2.4	Littoral mixed sediments
! A2.5	Coastal saltmarshes and saline reedbeds
	includes the following subtypes separately listed in or split units from the 1998 version:
A2.521	Atlantic and Baltic brackish saltmarsh communities
A2.531	Atlantic upper shore communities
A2.542	Atlantic lower shore communities
A2.5514	[<i>Salicornia veneta</i>] swards
A2.5515	Black Sea annual [<i>Salicornia</i>], [<i>Suaeda</i>] and [<i>Salsola</i>] saltmarshes
A2.553	Atlantic [<i>Sagina maritima</i>] communities
A2.6	Littoral sediments dominated by aquatic angiosperms
! A2.61	Seagrass beds on littoral sediments
! A2.621	[<i>Eleocharis</i>] beds
A2.7	Littoral biogenic reefs
! A2.72	Littoral mussel beds on sediment
! A3	Infralittoral rock and other hard substrata
	includes the following subtypes separately listed in or split units from the 1998 version:
A3.71	Robust faunal cushions and crusts in surge gullies and caves
A3.74	Caves and overhangs in infralittoral rock
! A4	Circalittoral rock and other hard substrata
	includes the following subtypes separately listed in or split units from the 1998 version:
A4.24	Mussel beds on circalittoral rock
A4.26	Mediterranean coralligenous communities moderately exposed to hydrodynamic action
A4.32	Mediterranean coralligenous communities sheltered from hydrodynamic action
A4.71	Communities of circalittoral caves and overhangs

! A5 Sublittoral sediment
includes the following subtypes separately listed in or split units from the 1998 version:
A5.627 Baltic mussel beds in the infralittoral photic zone

A6 Deep-sea bed

A6.9 Vents, seeps, hypoxic and anoxic habitats of the deep sea

A6.91 Deep-sea reducing habitats

! A6.911 Seeps in the deep-sea bed

B Coastal habitats

B1 Coastal dunes and sandy shores

! B1.3 Shifting coastal dunes

! B1.4 Coastal stable dune grassland (grey dunes)

! B1.5 Coastal dune heaths

! B1.6 Coastal dune scrub

! B1.7 Coastal dune woods

! B1.8 Moist and wet dune slacks

! B1.9 Machair

B2 Coastal shingle

! B2.3 Upper shingle beaches with open vegetation

C Inland surface waters

C1 Surface standing waters

! C1.1 Permanent oligotrophic lakes, ponds and pools
includes the following subtype separately listed in or split unit from the 1998 version:
C1.14 Charophyte submerged carpets in oligotrophic waterbodies

C1.2 Permanent mesotrophic lakes, ponds and pools

C1.22 Free-floating vegetation of mesotrophic waterbodies

! C1.222 Floating [*Hydrocharis morsus-ranae*] rafts

! C1.223 Floating [*Stratiotes aloides*] rafts

! C1.224 Floating [*Utricularia australis*] and [*Utricularia vulgaris*] colonies

! C1.225 Floating [*Salvinia natans*] mats

! C1.226 Floating [*Aldrovanda vesiculosa*] communities

C1.24 Rooted floating vegetation of mesotrophic waterbodies

C1.241 Floating broad-leaved carpets

! C1.2416 [*Nelumbo nucifera*] beds

! C1.25 Charophyte submerged carpets in mesotrophic waterbodies

C1.3 Permanent eutrophic lakes, ponds and pools

C1.34 Rooted floating vegetation of eutrophic waterbodies

C1.341 Shallow-water floating communities

! C1.3411 [*Ranunculus*] communities in shallow water

! C1.3413 [*Hottonia palustris*] beds in shallow water

C1.4 Permanent dystrophic lakes, ponds and pools

- ! C1.44 Charophyte submerged carpets in dystrophic waterbodies
- ! C1.5 Permanent inland saline and brackish lakes, ponds and pools
- C1.6 Temporary lakes, ponds and pools
- ! C1.66 Temporary inland saline and brackish waters
- ! C1.67 Turlough and lake-bottom meadows
- C2 Surface running waters
- C2.1 Springs, spring brooks and geysers
- ! C2.12 Hard water springs
- C3 Littoral zone of inland surface waterbodies
- C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation
- ! C3.41 Euro-Siberian perennial amphibious communities
- C3.42 Mediterraneo-Atlantic amphibious communities
- ! C3.421 Short Mediterranean amphibious communities
- ! C3.422 Tall Mediterranean amphibious communities
- C3.43 Central Eurasian amphibious communities
- ! C3.431 Ponto-Pannonic riverbank dwarf sedge communities
- C3.5 Periodically inundated shores with pioneer and ephemeral vegetation
- C3.51 Euro-Siberian dwarf annual amphibious swards
- ! C3.511 Freshwater dwarf [*Eleocharis*] communities
- ! C3.512 Dune-slack [*Centaureum*] swards
- ! C3.5132 Swards of small [*Cyperus*] species
- ! C3.5133 Wet ground dwarf herb communities
- ! C3.55 Sparsely vegetated river gravel banks
- C3.6 Unvegetated or sparsely vegetated shores with soft or mobile sediments
- ! C3.62 Unvegetated river gravel banks
- D Mires, bogs and fens
- D1 Raised and blanket bogs
- ! D1.2 Blanket bogs
- D2 Valley mires, poor fens and transition mires
- D2.2 Poor fens and soft-water spring mires
- D2.22 [*Carex nigra*], [*Carex canescens*], [*Carex echinata*] fens
- ! D2.226 Peri-Danubian black-white-star sedge fens
- ! D2.3 Transition mires and quaking bogs
includes the following subtype separately listed in or split unit from the 1998 version:
D2.3H Wet, open, acid peat and sand, with [*Rhynchospora alba*] and [*Drosera*]
- D3 Aapa, palsa and polygon mires
- ! D3.1 Palsa mires
- ! D3.2 Aapa mires

- ! D3.3 Polygon mires
 - D4 Base-rich fens and calcareous spring mires
 - ! D4.1 Rich fens, including eutrophic tall-herb fens and calcareous flushes and soaks
 - ! D4.2 Basic mountain flushes and streamsides, with a rich arctic-montane flora
 - D5 Sedge and reedbeds, normally without free-standing water
 - ! D5.2 Beds of large sedges normally without free-standing water
 - D6 Inland saline and brackish marshes and reedbeds
 - ! D6.1 Inland saltmarshes
 - includes the following subtypes separately listed in or split units from the 1998 version:
 - D6.15 Interior Iberian [*Microcnemum*] and [*Salicornia*] swards
 - D6.16 Interior central European and Anatolian [*Salicornia*], [*Microcnemum*], [*Suaeda*] and [*Salsola*] swards

- E Grasslands and lands dominated by forbs, mosses or lichens
 - E1 Dry grasslands
 - E1.1 Inland sand and rock with open vegetation
 - E1.11 Euro-Siberian rock debris swards
 - ! E1.112 [*Sempervivum*] or [*Jovibarba*] communities on rock debris
 - ! E1.2 Perennial calcareous grassland and basic steppes
 - ! E1.3 Mediterranean xeric grassland
 - E1.7 Closed non-Mediterranean dry acid and neutral grassland
 - ! E1.71 [*Nardus stricta*] swards
 - E1.8 Closed Mediterranean dry acid and neutral grassland
 - ! E1.83 Mediterraneo-montane [*Nardus stricta*] swards
 - ! E1.B Heavy-metal grassland
 - E2 Mesic grasslands
 - E2.2 Low and medium altitude hay meadows
 - ! E2.25 Continental meadows
 - E3 Seasonally wet and wet grasslands
 - ! E3.1 Mediterranean tall humid grassland
 - includes the following subtypes separately listed in or split units from the 1998 version:
 - E3.111 [*Serapias*] grassland
 - ! E3.4 Moist or wet eutrophic and mesotrophic grassland
 - ! E3.5 Moist or wet oligotrophic grassland

- E5 Woodland fringes and clearings and tall forb stands
 - E5.4 Moist or wet tall-herb and fern fringes and meadows
 - E5.41 Screens or veils of perennial tall herbs lining watercourses
 - E5.411 Watercourse veils (other than of [Filipendula])
 - ! E5.4111 [Angelica archangelica] fluvial communities
 - ! E5.4112 [Angelica heterocarpa] fluvial communities
 - ! E5.4113 [Althaea officinalis] screens
 - ! E5.414 Continental river bank tall-herb communities dominated by [Filipendula]
 - ! E5.415 Eastern nemoral riverbanks with tall herb communities
 - E5.42 Tall-herb communities of humid meadows
 - ! E5.423 Continental tall-herb communities of humid meadows
 - ! E5.424 Eastern nemoral Tall-herb communities of humid meadows
 - E6 Inland salt steppes
 - ! E6.1 Mediterranean inland salt steppes
 - ! E6.2 Continental inland salt steppes
 - includes the following subtype separately listed in or split unit from the 1998 version:
 - E6.23 Central Eurasian solonchak grassland with [Crypsis]
 - E7 Sparsely wooded grasslands
 - ! E7.3 Dehesa
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- F Heathland, scrub and tundra**
- F2 Arctic, alpine and subalpine scrub
 - F2.2 Evergreen alpine and subalpine heath and scrub
 - F2.22 Alpide acidocline [Rhododendron] heaths
 - ! F2.224 Carpathian [Rhododendron kotschyi] heaths
 - ! F2.225 Balkan [Rhododendron kotschyi] heaths
 - ! F2.26 [Bruckenthalia] heaths
 - F3 Temperate and mediterranean-montane scrub
 - F3.2 Submediterranean deciduous thickets and brushes
 - F3.24 Subcontinental and continental deciduous thickets
 - ! F3.241 Central European subcontinental thickets
 - F4 Temperate shrub heathland
 - ! F4.1 Wet heaths
 - ! F4.2 Dry heaths
 - ! F4.3 Macaronesian heaths
 - F5 Maquis, arborescent matorral and thermo-Mediterranean brushes
 - F5.5 Thermo-Mediterranean scrub
 - ! F5.52 [Euphorbia dendroides] formations
 - ! F5.54 [Chamaerops humilis] brush

- ! F5.55 Mediterranean pre-desert scrub
- ! F5.56 Thermo-Mediterranean broom fields (retamares)
- ! F5.5B Cabo de Sao Vicente brushes

- F6 Garrigue

- ! F6.7 Mediterranean gypsum scrubs
- ! F6.8 Xero-halophile scrubs

- ! F7 Spiny Mediterranean heaths (phrygana, hedgehog-heaths and related coastal cliff vegetation)

- F9 Riverine and fen scrubs

- ! F9.1 Riverine scrub
- ! F9.3 Southern riparian galleries and thickets (Excluding F9.35: Riparian stands of invasive shrubs)

- G Woodland, forest and other wooded land

- G1 Broadleaved deciduous woodland

- G1.1 Riparian and gallery woodland, with dominant [Alnus], [Betula], [Populus] or [Salix]
- ! G1.11 Riverine [Salix] woodland
- ! G1.12 Boreo-alpine riparian galleries
- ! G1.13 Southern [Alnus] and [Betula] galleries

- G1.2 Mixed riparian floodplain and gallery woodland
- ! G1.21 Riverine [Fraxinus] - [Alnus] woodland, wet at high but not at low water
- G1.22 Mixed [Quercus] - [Ulmus] - [Fraxinus] woodland of great rivers
- ! G1.221 Great medio-European fluvial forests
- ! G1.223 Southeast European [Fraxinus] - [Quercus] - [Alnus] forests
- ! G1.224 Po [Quercus] - [Fraxinus] - [Alnus] forests

- G1.3 Mediterranean riparian woodland
- ! G1.36 Ponto-Sarmatic mixed [Populus] riverine forests
- ! G1.37 Irano-Anatolian mixed riverine forests
- ! G1.38 [Platanus orientalis] woods
- ! G1.39 [Liquidambar orientalis] woods

- G1.4 Broadleaved swamp woodland not on acid peat
- G1.41 [Alnus] swamp woods not on acid peat
- G1.411 Meso-eutrophic swamp alder woods
- ! G1.4115 Eastern Carpathian [Alnus glutinosa] swamp woods
- ! G1.414 Steppe swamp [Alnus glutinosa] woods
- ! G1.44 Wet-ground woodland of the Black and Caspian Seas

- G1.5 Broadleaved swamp woodland on acid peat
- ! G1.51 Sphagnum [Betula] woods

- ! G1.6 [Fagus] woodland

- ! G1.7 Thermophilous deciduous woodland (excluding G1.7D Castanea sativa woodland)
includes the following subtypes separately listed in or split units from the 1998 version:

- G1.7B [Quercus pyrenaica] woodland
- G1.7C Mixed thermophilous woodland
- ! G1.8 Acidophilous [Quercus]-dominated woodland
- G1.A Meso- and eutrophic [Quercus], [Carpinus], [Fraxinus], [Acer], [Tilia], [Ulmus] and related woodland
- ! G1.A1 [Quercus] - [Fraxinus] - [Carpinus betulus] woodland on eutrophic and mesotrophic soils
- ! G1.A4 Ravine and slope woodland
- ! G1.A7 Mixed deciduous woodland of the Black and Caspian Seas
- ! G2 Broadleaved evergreen woodland (excluding G2.8 Highly artificial broadleaved evergreen forestry plantations and G2.9 Evergreen orchards and groves)
- G3 Coniferous woodland
 - G3.1 [Abies] and [Picea] woodland
 - ! G3.15 Southern Apennine [Abies alba] forests
 - ! G3.16 Moesian [Abies alba] forests
 - ! G3.17 Balkano-Pontic [Abies] forests
 - ! G3.19 [Abies pinsapo] forests
 - ! G3.1B Alpine and Carpathian subalpine [Picea] forests
 - ! G3.1C Inner range montane [Picea] forests
 - ! G3.1D Hercynian subalpine [Picea] forests
 - G3.1E Southern European [Picea abies] forests
 - ! G3.1E1 Southeastern Moesian [Picea abies] forests
 - ! G3.1E3 Montenegrine [Picea abies] forests
 - ! G3.1E4 Pelagonide [Picea abies] forests
 - ! G3.1E5 Balkan Range [Picea abies] forests
 - ! G3.1G [Picea omorika] forests
 - ! G3.1H [Picea orientalis] forests
 - G3.2 Alpine [Larix] - [Pinus cembra] woodland
 - ! G3.21 Eastern Alpine siliceous [Larix] and [Pinus cembra] forests
 - ! G3.22 Eastern Alpine calcicolous [Larix] and [Pinus cembra] forests
 - ! G3.25 Carpathian [Larix] and [Pinus cembra] forests
 - ! G3.26 [Larix polonica] forests
 - G3.3 [Pinus uncinata] woodland
 - ! G3.31 [Pinus uncinata] forests with [Rhododendron ferrugineum]
 - ! G3.32 Xerocline [Pinus uncinata] forests
 - G3.4 [Pinus sylvestris] woodland south of the taiga
 - ! G3.41 Caledonian forest
 - G3.42 Middle European [Pinus sylvestris] forests
 - G3.423 Western Eurasian steppe pine forests
 - ! G3.4232 Sarmatic steppe [Pinus sylvestris] forests
 - ! G3.4233 Carpathian steppe [Pinus sylvestris] woods
 - ! G3.4234 Pannonic steppe [Pinus sylvestris] woods
 - G3.44 Spring heath [Pinus sylvestris] forests
 - ! G3.442 Carpathian relict calcicolous [Pinus sylvestris] forests
 - ! G3.4C Southeastern European [Pinus sylvestris] forests

- ! G3.4E Ponto-Caucasian [*Pinus sylvestris*] forests
 - G3.5 [*Pinus nigra*] woodland
 - ! G3.51 Alpino-Appennine [*Pinus nigra*] forests
 - ! G3.52 Western Balkanic [*Pinus nigra*] forests
 - ! G3.53 [*Pinus salzmannii*] forests
 - ! G3.54 Corsican [*Pinus laricio*] forests
 - ! G3.55 Calabrian [*Pinus laricio*] forests
 - ! G3.56 [*Pinus pallasiana*] and [*Pinus banatica*] forests
 - ! G3.6 Subalpine mediterranean [*Pinus*] woodland
 - G3.7 Lowland to montane mediterranean [*Pinus*] woodland (excluding [*Pinus nigra*])
 - G3.71 Maritime [*Pinus pinaster* ssp. *atlantica*] forests
 - ! G3.711 Charente [*Pinus pinaster* ssp. *atlantica*] - [*Quercus ilex*] forests
 - ! G3.712 Aquitanian [*Pinus pinaster* ssp. *atlantica*] - [*Quercus suber*] forests
 - ! G3.714 Iberian [*Pinus pinaster* ssp. *atlantica*] forests
 - ! G3.72 [*Pinus pinaster* ssp. *pinaster*] ([*Pinus mesogeensis*]) forests
 - ! G3.73 [*Pinus pinea*] forests
 - G3.74 [*Pinus halepensis*] forests
 - ! G3.741 Iberian [*Pinus halepensis*] forests
 - ! G3.742 Balearic [*Pinus halepensis*] forests
 - ! G3.743 Provenço-Ligurian [*Pinus halepensis*] forests
 - ! G3.744 Corsican [*Pinus halepensis*] woods
 - ! G3.745 Sardinian [*Pinus halepensis*] woods
 - ! G3.746 Sicilian [*Pinus halepensis*] woods
 - G3.747 Italic [*Pinus halepensis*] forests
 - ! G3.7471 Gargano [*Pinus halepensis*] forests
 - ! G3.7472 Metapontine [*Pinus halepensis*] forests
 - ! G3.7473 Umbrian [*Pinus halepensis*] forests
 - ! G3.748 Hellenic [*Pinus halepensis*] forests
 - ! G3.749 Illyrian [*Pinus halepensis*] forests
 - ! G3.74A East Mediterranean [*Pinus halepensis*] forests
 - ! G3.75 [*Pinus brutia*] forests
 - ! G3.8 Canary Island [*Pinus canariensis*] woodland
 - ! G3.9 Coniferous woodland dominated by [*Cupressaceae*] or [*Taxaceae*]
includes the following subtypes separately listed in or split unit from the 1998 version:
 - G3.9C [*Cedrus*] woodland
 - ! G3.D Boreal bog conifer woodland
 - ! G3.E Nemoral bog conifer woodland
- H Inland unvegetated or sparsely vegetated habitats
- ! H1 Terrestrial underground caves, cave systems, passages and waterbodies
 - H2 Screens
 - H2.6 Calcareous and ultra-basic screes of warm exposures
 - H2.61 Peri-Alpine thermophilous screes

! H2.613 Paris Basin screes

X Habitat complexes

- ! X01 Estuaries
- ! X02 Saline coastal lagoons
- ! X03 Brackish coastal lagoons
- ! X04 Raised bog complexes
- ! X18 Wooded steppe
- ! X29 Salt lake islands
- ! X35 New EUNIS complex ! "Inland Sand Dunes"