

Approval of Guidelines for Selection of Key Biotopes and the Classifier of Key Biotopes

Regulation No. 65 of 7 July 1999 of the Minister of the Environment

Pursuant to subsection 31 (3) of the Forest Act (RT I 1998, 113/114, 1872), I hereby establish:

1. To approve the Guidelines for Selection of Key Biotopes (attached).
2. To approve the Classifier of Key Biotopes (attached).

Minister Heiki KRANICH

Secretary General Sulev VARE

Approved

by Regulation No. 65 of 7 July 1999

of the Minister of the Environment

GUIDELINES FOR SELECTION OF KEY BIOTOPES

1. Key biotopes (valuable habitats) are areas requiring protection in a commercial forest, where the probability of occurrence of endangered, vulnerable or rare species is great.
2. Selection of key biotopes consists in identification of such areas in commercial forests that correspond to the distinctive features specified in the Classifier of Key Biotopes and require protection.
3. Selection of key biotopes shall be arranged by the Forestry Board through its local offices.
4. Key biotopes can be selected by persons who have passed a training course on selection of key biotopes organised by the Forestry Board and have acquired the relevant certificate.
5. Key biotopes shall be selected in the course of a regular total area survey of forest, or as a separate activity.
6. Data on areas selected as key biotopes shall be submitted to the Forestry Board's local office of the location of the key biotopes.
7. Director of the Forestry Board's local office in the working district of which the area selected as key biotope is located shall:
 1. enter the selected key biotope into the database of the Forestry Board;
 2. make a proposal to the Director General of the Forestry Board, in the case of a forest belonging to a person in private law or to a local government, to conclude a contract

between the owner of the forest and the Forestry Board and, in the case of a state forest, to give a precept to the manager of the state forest.

1. The contract on protection of a key biotope concluded between the Forestry Board and the owner of forest shall contain, as a minimum, the following data:
 1. location of the key biotope;
 2. name of forest owner, personal or registry code, address;
 3. name and distinctive features of the key biotope;
 4. size (ha) of the area selected as key biotope;
 5. activities to be performed by the contracting parties for management of the key biotope and the rights and obligations concurring with these activities;
 6. date and place of concluding the contract and validity period of the contract.
1. In case an area selected as key biotope hosts protected species in the meaning of the Protected Natural Objects Act (RT I 1994, 46, 773; 1998 36/37, 555), and in case the forest owner is not willing to conclude a contract on protection of the key biotope in accordance with these Guidelines, the Forestry Board shall make a proposal, in accordance with subsection 5 (3) of the Protected Natural Objects Act, to the Minister of the Environment to establish a protected area in the area selected as key biotope.
2. Data on key biotopes shall be maintained in the database of the Forestry Board as long as the biotopes bear the distinctive features specified in the Classifier of Key Biotopes.
3. The Forestry Board shall submit reports on key biotopes entered into or excluded from the database of the Forestry Board to the Minister of the Environment on an annual basis.

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CLASSIFIER OF KEY BIOTOPES

1000. Main divisions of key biotopes (valuable habitats)

- 1100. Alvar forests
- 1101. Coniferous forests
- 1102. Mixed forests
- 1103. Forests of valuable broad-leaved trees
- 1104. Other broad-leaved forests

1110. Boreal heath forests

1111. Coniferous forests

1112. Mixed forests

1120. Dry boreal forests

1121. Coniferous forests

1122. Mixed forests

1123. Aspen forests

1124. Other broad-leaved forests

1130. Fresh boreal forests

1131. Coniferous forests

1132. Mixed forests

1140. Dry boreo-nemoral forests

1141. Coniferous forests

1142. Mixed forests

1143. Forests of valuable broad-leaved trees

1144. Aspen forests

1145. Other broad-leaved forests

1150. Fresh boreo-nemoral forests

1151. Coniferous forests

1152. Mixed forests

1153. Forests of valuable broad-leaved trees

1154. Alder forests

1155. Aspen forests

1156. Other broad-leaved forests

1160. Floodplain (alluvial) forests

1161. Forests of valuable broad-leaved trees

- 1162. Alder forests
- 1163. Other broad-leaved forests
- 1164. Spruce forests and spruce mixed forests
- 1170. Rich paludified forests
- 1171. Forests of valuable broad-leaved trees
- 1172. Alder forests
- 1173. Aspen forests
- 1174. Spruce forests and spruce mixed forests
- 1175. Pine forests and birch forests
- 1180. Poor paludified forests
- 1181. Spruce forests and spruce mixed forests
- 1182. Pine forests and birch forests
- 1190. Minerotrophic swamp forests
- 1191. Spruce forests and spruce mixed forests
- 1192. Pine forests and birch forests
- 1200. Minerotrophic mobile water swamp forests
- 1201. Alder forests
- 1202. Other broad-leaved forests
- 1203. Spruce forests and spruce mixed forests
- 1210. Mixotrophic (transitional) bog forests
- 1211. Pine forests and birch forests
- 1220. Ombrotrophic bog forests
- 1221. Pine forests and birch forests

1230. Drained peatland forests

1231. Valuable broad-leaved forests

1232. Alder forests

1233. Spruce forests and spruce mixed forests

1234. Pine forests and birch forests

DISTINCTIVE FEATURES OF MAIN DIVISIONS OF
KEY BIOTOPES (VALUABLE HABITATS)

Alvar forests

(distinctive features of valuable habitats corresponding to main divisions 1101, 1102, 1103 and 1104)

Description

Natural stand growing on calcareous soil. Average thickness of soil layer less than 30 cm, dry to fresh soil.

Distinctive features:

- limestone shingle and -outcrops;
- thin layer of soil on limestone;
- continuity of forest generations obvious;
- characteristic slow-growing, often crooked trees;
- occurrence of old big trees;
- gaps.

Examples of characteristic species:

Fungi: *Aleurodiscus amorphus*, *Boletus satanas*, *Clavariadelphus pistillaris*, *Clavariadelphus truncatus*, *Geastrum spp.*, *Gomphus clavatus*, *Hydnellum spp.*, *Sarcodon spp.*, *Sowerbyella spp.*

Coniferous forests

(distinctive features of valuable habitats corresponding to main divisions 1101, 1111, 1121, 1131, 1141 and 1151)

Description

Natural stand growing on dry, mesotrophic or fresh soil, at least 80% of the composition formed by conifers.

Distinctive features

- self-regenerated;
- minimum human impact;
- standing dead trees;
- down timber in different stages of decomposition;
- continuity of forest generations obvious;
- trees of different generations, of uneven age, height and diameter;
- windbreakage and windfall;
- gaps;
- over 150-year pines with specific scaly bark and exposed to the sun.

Examples of characteristic species:

Fungi: *Asterodon ferruginosus*, *Diplomitoporus flavescens*, *Fomitopsis rosea*, *Leptoporus mollis*, *Multiclavula mucida*, *Phaeolus schweinitzii*, *Phellinus ferrugineofuscus*, *Phellinus nigrolimitatus*, *Phlebia centrifuga*, *Pycnoporellus fulgens*, *Sarcosoma globosum*, *Skeletocutis stellae*;

Lichens: *Arthonia leucopellea*, *Chaenotheca subroscida*, *Evernia divaricata*, *Evernia mesomorpha*, *Hypogymnia farinacea*, *Icmadophila ericetorum*, *Lecanactis abietina*, *Ramalina thrausta*;

Bryophytes: *Anastrophyllum hellerianum*, *Bazzania trilobata*, *Dicranum spurium*, *Geocalyx graveolens*, *Hylocomium umbratum*, *Jamesoniella autumnalis*, *Jungermannia leiantha*, *Lepidozia reptans*, *Leucobryum glaucum*, *Nowellia curvifolia*, *Odontoschisma denudatum*, *Plagiothecium undulatum*, *Riccardia latifrons*, *Sphagnum wulfianum*;

Coleoptera: *Ampedus sanguineus*, *Anoplodera variicornis*, *Boros schneideri*, *Buprestis novemmaculata*, *Calitys scabra*, *Callidium coriaceum*, *Ceruchus chrysomelinus*, *Chalcophora mariana*, *Dendrophagus crenatus*, *Nothorhina punctata*, *Ostoma ferruginea*, *Peltis grossa*.

Mixed forests

(distinctive features of valuable habitats corresponding to main divisions 1102, 1112, 1122, 1132, 1142 and 1152)

Description

Natural stands growing on dry, mesotrophic or fresh soil, conifers dominating, 20-50% of the composition formed by broad-leaved trees.

Distinctive features

- self-regenerated;
- minimum human impact;
- standing dead trees;
- down timber in different stages of decomposition;
- continuity of forest generations obvious;
- trees of different generations, of uneven age, height and diameter;
- windbreakage and windfall;
- gaps;

Examples of characteristic species:

Fungi: *Asterodon ferruginosus*, *Diplomitoporus flavescens*, *Fomitopsis rosea*, *Ganoderma lucidum*, *Geastrum* spp., *Hericium coralloides*, *Leptoporus mollis*, *Multiclavula mucida*, *Phellinus ferrugineofuscus*, *Phellinus nigrolimitatus*, *Phlebia centrifuga*, *Pycnoporellus fulgens*, *Sarcosoma globosum*, *Skeletocutis stellae*, *Tremiscus helvelloides*, *Xylaria polymorpha*;

Lichens: *Arthonia leucopellea*, *Chaenotheca brachypoda*, *Evernia divaricata*, *Evernia mesomorpha*, *Hypogymnia farinacea*, *Icmadophila ericetorum*, *Lecanactis abietina*, *Leptogium saturninum*, *Lobaria pulmonaria*, *Mycoblastus sanguinarius*, *Nephroma* spp., *Parmeliella triptophylla*, *Peltigera collina*, *Ramalina thrausta*;

Bryophytes: *Anastrophyllum hellerianum*, *Bazzania trilobata*, *Frullania dilatata*, *Geocalyx graveolens*, *Hylocomium umbratum*, *Jamesoniella autumnalis*, *Jungermannia leiantha*, *Lejeunea cavifolia*, *Lepidozia reptans*, *Metzgeria furcata*, *Neckera complanata*, *Neckera pennata*, *Nowellia curvifolia*, *Odontoschisma denudatum*, *Plagiothecium undulatum*, *Riccardia latifrons*, *Sphagnum wulfianum*, *Ulota crispa*;

Coleoptera: *Acanthoderes clavipes*, *Agrilus ater*, *Agrilus mendax*, *Anoplodera variicornis*, *Calitys scabra*, *Callidium coriaceum*, *Ceruchus chrysomelinus*, *Cucujus cinnaberinus*, *Dendrophagus crenatus*, *Descarpentriesina variolosa*, *Dicerca alni*, *Dicerca furcata*, *Hololepta plana*, *Leptura nigripes*, *Leptura thoracica*, *Necydalis major*, *Ostoma ferruginea*, *Peltis grossa*, *Platycerus* spp., *Saperda perforata*, *Xylotrechus rusticus*.

Forests of valuable broad-leaved trees

(distinctive features of valuable habitats corresponding to main divisions 1103, 1143 and 1153)

Description

Natural stands growing on dry, mesotrophic or fresh soil, at least 50% of the composition formed by valuable broad-leaved tree species such as oak, maple, linden, ash, mountain elm or soft-leaved elm.

Distinctive features:

- self-regenerated;
- minimum human impact;
- standing dead trees;
- down timber in different stages of decomposition;
- continuity of forest generations obvious;
- trees of different generations, of uneven age, height and diameter;
- windbreakage and windfall;
- gaps
- very big, hollow trees.

Examples of characteristic species:

Fungi: *Ceriporia purpurea*, *Geastrum* spp., *Lindtneria trachyspora*, *Lycoperdon echinatum*, *Perenniporia medullapanis*, *Phellinus ferruginosus*, *Steccherinum robustius*, *Xylaria polymorpha*, *Xylobolus frustulatus*;

Lichens: *Acrocordia gemmata*, *Arthonia vinosa*, *Bacidia rubella*, *Chaenotheca brachypoda*, *Chaenotheca chlorella*, *Chaenotheca phaeocephala*, *Cliostomum corrugatum*, *Cyphelium inquinans*, *Gyalecta ulmi*, *Lobaria pulmonaria*, *Megalaria grossa*, *Nephroma* spp., *Pertusaria pertusa*, *Sclerophora* spp., *Thelotrema lepadinum*;

Bryophytes: *Anomodon attenuatus*, *Anomodon longifolius*, *Anomodon viticulosus*, *Frullania dilatata*, *Isoetecium alopecuroides*, *Jamesoniella autumnalis*, *Lejeunea cavifolia*, *Metzgeria furcata*, *Mnium hornum*, *Neckera complanata*, *Neckera pennata*, *Porella* spp.;

Coleoptera: *Calosoma inquisitor*, *Cyrtoclytus capra*, *Gnorimus nobilis*, *Liocola marmorata*, *Lymexylon navale*, *Mycetochara* spp., *Osmoderma eremita*, *Rhamnusium bicolor*.

Aspen forests

(distinctive features of valuable habitats corresponding to main divisions 1123, 1144, 1155 and 1173)

Description

Natural stand growing on dry, mesotrophic or fresh soil, at least 50% of the stand formed by aspens.

Distinctive features:

- self-regenerated;
- standing dead trees;

- down timber in different stages of decomposition;
- continuity of forest generations obvious;
- trees of different generations, of uneven age, size and diameter;
- windbreakage and windfall;
- gaps.

Examples of characteristic species:

Fungi: *Dentipellis fragilis*, *Hericium coralloides*, *Junghuhnia pseudozilingiana*, *Multiclavula mucida*, *Sistotrema raduloides*, *Skeletocutis odora*, *Tomentella crinalis*;

Lichens: *Acrocordia gemmata*, *Bacidia rubella*, *Chaenotheca brachypoda*, *Leptogium saturninum*, *Lobaria pulmonaria*, *Mycoblastus sanguinarius*, *Nephroma spp.*, *Parmeliella triptophylla*, *Peltigera collina*;

Bryophytes: *Anomodon attenuatus*, *Anomodon longifolius*, *Frullania dilatata*, *Jamesoniella autumnalis*, *Lejeunea cavifolia*, *Metzgeria furcata*, *Neckera complanata*, *Neckera pennata*, *Ulota crispa*;

Coleoptera: *Acanthoderes clavipes*, *Agrilus ater*, *Ceruchus chrysomelinus*, *Cucujus cinnaberinus*, *Descarpentriesina variolosa*, *Hololepta plana*, *Necydalis major*, *Saperda perforata*, *Xylotrechus rusticus*.

Other broad-leaved forests

(distinctive features of valuable habitats corresponding to main divisions 1104, 1124, 1145, 1156, 1163 and 1202)

Description

Natural stand where broad-leaved trees form at least 50% of the composition while the percentage of aspen and of valuable broad-leaved tree species is less than 50

Distinctive features:

- self-regenerated;
- standing dead trees;
- down timber in different stages of decomposition;
- continuity of forest generations obvious;
- windbreakage and windfall;
- gaps.

Examples of characteristic species:

Fungi: *Dentipellis fragilis*, *Hericium coralloides*, *Junghuhnia pseudozilingiana*, *Multiclavula mucida*, *Sistotrema raduloides*, *Skeletocutis odora*, *Tomentella crinalis*;

Lichens: *Acrocordia gemmata*, *Bacidia rubella*, *Chaenotheca brachypoda*, *Leptogium saturninum*, *Lobaria pulmonaria*, *Mycoblastus sanguinarius*, *Nephroma* spp., *Parmeliella triptophylla*, *Peltigera collina*;

Bryophytes: *Anomodon attenuatus*, *Anomodon longifolius*, *Frullania dilatata*, *Jamesoniella autumnalis*, *Lejeunea cavifolia*, *Metzgeria furcata*, *Neckera complanata*, *Neckera pennata*, *Ulota crispa*;

Coleoptera: *Acanthoderes clavipes*, *Agrilus ater*, *Ceruchus chrysomelinus*, *Cucujus cinnaberinus*, *Descarpentriesina variolosa*, *Hololepta plana*, *Necydalis major*, *Saperda perforata*, *Xylotrechus rusticus*.

Alder forests

(distinctive features of valuable habitats corresponding to main divisions 1154, 1162, 1172, 1201 and 1232)

Description

Natural stand growing on periodically flooded moist mineral land or peatland, at least 50% of the composition formed by alders.

Distinctive features:

- productive, water-logged land;
- mosaic micro-relief with high stem-hummocks and shallow wet depressions between these;
- trees with well-developed crampons;
- forest self-regenerated;
- characteristic regeneration of alders from stump shoots and from the foot of old trees;
- continuity of forest generations obvious;
- occurrence of dead or rotten standing trees and down timber;
- windbreakage and windfall;
- gaps.

Examples of characteristic species:

Fungi: *Physisporinus vitreus*, *Phlebia subochracea*;

Lichens: *Arthonia leucopellea*, *Arthonia vinosa*, *Chaenotheca brachypoda*, *Hypogymnia farinacea*, *Lecanactis abietina*, *Mycoblastus sanguinarius*, *Menegazzia terebrata*, *Thelotrema lepadinum*;

Bryophytes: *Bazzania trilobata*, *Geocalyx graveolens*, *Jamesoniella autumnalis*, *Jungermannia leiantha*, *Mnium hornum*, *Pseudobryum cinclidioides*, *Riccardia latifrons*, *Riccardia palmata*;

Coleoptera: *Ampedus nigroflavus*, *Ceruchus chrysomelinus*, *Dicerca alni*, *Peltis grossa*.

Spruce forests and spruce mixed forests

(distinctive features of valuable habitats corresponding to main divisions 1164, 1174, 1181, 1191, 1203 and 1233)

Description

Spruce forest, spruce-pine mixed forest or conifer-broad-leaved mixed forest with at least 50% of the composition formed by spruces; growing on moist soil or peat.

Distinctive features:

- productive, water-logged soil;
- forest self-regenerated;
- continuity of forest generations obvious;
- trees of different generations, of uneven age, height and diameter;
- characteristic slow-growing spruces;
- down timber in different stages of decomposition;
- windbreakage and windfall;
- gaps.

Examples of characteristic species:

Fungi: *Asterodon ferruginosus*, *Dentipellis fragilis*, *Eocronartium muscicola*, *Fomitopsis rosea*, *Leptoporus mollis*, *Perenniporia subacida*, *Phellinus ferrugineofuscus*, *Phellinus nigrolimitatus*, *Phlebia centrifuga*, *Physosporinus vitreus*, *Pycnoporellus fulgens*, *Skeletocutis odora*, *Skeletocutis stellae*;

Lichens: *Arthonia leucopellea*, *Chaenotheca subroscida*, *Evernia divaricata*, *Evernia mesomorpha*, *Icmadophila ericetorum*, *Lecanactis abietina*, *Ramalina thrausta*;

Bryophytes: *Anastrophyllum hellerianum*, *Bazzania trilobata*, *Geocalyx graveolens*, *Jamesoniella autumnalis*, *Jungermannia leiantha*, *Lepidozia reptans*, *Leucobryum glaucum*, *Nowellia curvifolia*, *Odontoschisma denudatum*, *Plagiothecium undulatum*, *Riccardia latifrons*, *Riccardia palmata*, *Sphagnum wulfianum*, *Splachnum ampullaceum*;

Coleoptera: *Anoplodera variicornis*, *Calitys scabra*, *Callidium coriaceum*, *Ceruchus chrysomelinus*, *Ostoma ferruginea*, *Peltis grossa*.

Wetland pine forests and birch forests

(distinctive features of valuable habitats corresponding to main divisions 1175, 1182, 1192, 1211, 1221 and 1234)

Description

Pine forests, pine-birch mixed forests and birch forests on waterlogged soils that are mostly poor in nutrients. Comprises ombrotrophic bog pine forests, ecotones between forest and bog, etc.

Distinctive features:

- water-logged soil, unditched;
- forest self-regenerated;
- continuity of forest generations obvious;
- trees of different generations, of uneven age, size and diameter;
- characteristic slow-growing, often crooked trees;
- occurrence of old thick trees exposed to the sun, and of dead thick branches and stems, is essential.

Examples of characteristic species:

Fungi: *Diplomitoporus flavescens*, *Leptoporus mollis*;

Lichens: *Hypogymnia farinacea*, *Mycoblastus sanguinarius*;

Bryophytes: *Nowellia curvifolia*, *Jamesoniella autumnalis*, *Splachnum ampullaceum*.

Wetland forests of valuable broad-leaved trees

(distinctive features of valuable habitats corresponding to main divisions 1161, 1171 and 1231)

Description:

Natural stands growing on thin peat or wet mineral (clay) soil, at least 50% of the composition formed by valuable broad-leaved tree species.

Distinctive features:

- productive, water-logged, unditched land;
- mosaic micro-relief with high stem-hummocks and shallow wet depressions between these;
- trees with well-developed crampons;
- forest self-regenerated;
- continuity of forest generations obvious;
- trees of different generations, of uneven age, height and diameter;
- down timber in different stages of decomposition;
- occurrence of old trees with large dimensions.

Examples of characteristic species:

Fungi: *Ceriporia purpurea*, *Geastrum spp.*, *Lindtneria trachyspora*, *Lycoperdon echinatum*, *Perenniporia medulla-panis*, *Phellinus ferruginosus*, *Physisporinus vitreus*, *Phlebia subochracea*, *Steccherinum robustius*, *Xylaria polymorpha*, *Xylobolus frustulatus*;

Lichens: *Acrocordia gemmata*, *Arthonia leucopellea*, *Arthonia vinosa*, *Bacidia rubella*, *Chaenotheca brachypoda*, *Chaenotheca chlorella*, *Cyphelium inquinans*, *Gyalecta ulmi*, *Lobaria pulmonaria*, *Megalaria grossa*, *Nephroma spp.*, *Pertusaria pertusa*, *Sclerophora spp.*, *Thelotrema lepadinum*;

Bryophytes: *Anomodon attenuatus*, *Anomodon longifolius*, *Anomodon viticulosus*, *Frullania dilatata*, *Isothecium alopecuroides*, *Jamesoniella autumnalis*, *Lejeunea cavifolia*, *Metzgeria furcata*, *Mnium hornum*, *Neckera complanata*, *Neckera pennata*;

Coleoptera: *Calosoma inquisitor*, *Gnorimus nobilis*, *Liocola marmorata*, *Lymexylon navale*, *Osmoderma eremita*.

2000. Key biotopes (valuable habitats) associated with landscape elements

2100. Bank slopes of natural rivers and streams

2101. Steep riverbanks

2102. Shelving river banks

2103. Stream banks

2110. Plain waterside forests (floodplain forests)

2111. Low river banks and river floodplains

2112. Streamside floodplains

2113. Other waterside forests

2120. Other areas influenced by water

2121. Banks of temporary waterbodies

2122. Springy areas

2123. Forests at the side of calcareous fens and wet grasslands

2124. Areas affected by beaver dams

2130. Islands and peninsulas

2131. Small islands or peninsulas

2132. Wetlands of island-like location

2140. Escarpment forests

2141. Forests growing on or beneath coastal limestone escarpment (klint)

2142. Other escarpment forests

2150. Former burnt areas

2160. Wooded meadows

2170. Hazelnut brush

2180. Single big trees

2000. VALUABLE HABITATS ASSOCIATED WITH LANDSCAPE ELEMENTS

Additional values that are complementary to distinctive features referred to under main divisions are specified in this list of distinctive features.

Bank slopes of natural rivers and streams

2101. Steep riverbanks

Description

Elevation angle of river bank over 35°. Bank covered with forest; sandstone or limestone outcrops may occur. River wider than 2 metres.

2102. Shelving river banks

Description

Elevation angle of river bank between 10° and 35°. River wider than 2 metres.

2103. Stream banks

Description

Elevation angle of stream bank over 10°. Stream narrower than 2 metres.

Distinctive features:

- steadily humid microclimate;
- surface erosion;
- bedrock cropping out on steep banks;
- trees with peculiar crown and root system;

Examples of characteristic species:

Bryophytes: *Geocalyx graveolens*, *Mnium hornum*, *Pseudobryum cinclidioides*, *Riccardia latifrons*, *Riccardia palmata*.

2110. Plain waterside forests (floodplain forests)

2111. Low river banks and river floodplains

Description

River wider than 2 metres.

2112. Streamside floodplains

Description

Stream narrower than 2 metres.

2113. Other waterside forests

Description

Bank areas of small forest lakes and ponds.

Distinctive features:

- area unditched;
- high nutrient content of soil;
- occurrence of alluvial sediments;
- steadily humid micro-climate;
- area periodically affected by floods and ice.

2120. Other areas influenced by water

2121. Banks of temporary waterbodies

Description

Temporary streams, rivulets, shallow depressions and small valleys that are filled with water only after strong rainfalls or after the melting of snow.

Distinctive features

- periodically water-logged area;
- high nutrient content of soil.

2122. Springy areas

Description

- a spring is a single place of issue of groundwater;
- a spring system is an extended place of issue of groundwater which may encompass several springs;
- a springy area is a place of diffuse issue of swampy groundwater, where primary springs cannot be distinguished.

Distinctive features

- surrounding area unditched and free of constructions;
- soil rich in nutrients;
- temperature in close vicinity of the spring stays relatively stable all the year round.

Examples of characteristic species:

Bryophytes: *Geocalyx graveolens*, *Helodium blandowii*, *Pseudobryum cinclidioides*, *Riccardia latifrons*, *Riccardia palmata*, *Trichocolea tomentella*.

2123. Forests at the side of calcareous fens and wet grasslands

Description

Minerotrophic swamps or wet grasslands in forests growing on calcareous soil, open or (mostly sparsely) covered with trees.

Distinctive features

- impact of calcareous surface- and ground water;
- steadily humid microclimate;
- area unditched.

Examples of characteristic species:

Bryophytes: *Geocalyx graveolens*, *Hamatocaulis vernicosus*, *Helodium blandowii*, *Paludella squarrosa*, *Pseudobryum cinclidioides*, *Riccardia latifrons*, *Riccardia palmata*.

2124. Areas affected by beaver dams

Description

Characteristic sharply moistened soil and worsened runoff due to a beaver dam hindering drainage from a wet area.

Distinctive features:

- only flooded stands in gullies and valleys (i.e. in limited areas) are regarded as valuable habitats; plain areas where hectares of land are flooded are not included.
- it is essential that the water stays in the area also in summer, i.e. periodically dry river floodplains are not included;
- standing dead forest perished as a result of a flood;
- the waterbody concerned is a natural water body.

Examples of characteristic species:

Coleoptera: *Dicerca furcata*, *Melandrya dubia*, *Peltis grossa*.

2130. Islands and peninsulas

2131. Small island or peninsula

Description

Islands or peninsulas with an area of less than 1.5 ha. Islands mean spots of mineral land located in wetlands, and land areas with different types of soil surrounded with water.

Distinctive features:

- steadily humid microclimate;
- isolation due to geographic location;

2132. Wetlands of island-like location

Description

Wetland-islands with an area of less than 1.5 ha. Wetland-island means a fen or bog of different types, or a flooded area or reedbed, surrounded with forest.

Distinctive features:

- area unditched;
- steadily humid micro-climate;
- well-developed ecotones between forest and wetland.

2140. Escarpment forests

2141. Forests growing on or beneath coastal limestone escarpment (klint)

Description

Forests growing on slopes beneath a coastal limestone escarpment with an elevation angle of more than 35°, in crevices in such escarpment, or up to 10 metres from the edge of such escarpment.

2142. Other escarpment forests

Description

Any other forest that grows on an escarpment that is more than 10 meters high, has an elevation angle of more than 35° and does not slope towards a watercourse.

Distinctive features:

- specific soil conditions (high pH, rich in lime);
- percolation water;
- surface erosion;
- landslips;
- steadily humid micro-climate on northern slopes;
- southern slopes exposed to the sun.

Examples of characteristic species:

Bryophytes: *Anomodon attenuatus*, *Anomodon longifolius*, *Anomodon viticulosus*, *Frullania dilatata*, *Jamesoniella autumnalis*, *Jungermannia leiantha*, *Metzgeria furcata*, *Mnium hornum*, *Neckera pennata*, *Porella spp.*;

Coleoptera: *Peltis grossa*.

2150. Former burnt areas

Description

Forest areas with clear traces of forest fire, i.e. occurrence of burnt dead trees and fire damages in many trees.

Distinctive features:

- forest self-regenerated after the fire;
- charred parts of stem preserved;
- occurrence of a few thick trees that have survived the fire;
- occurrence of pine stems covered with resin as a result of fire.

Characteristic species:

Coleoptera: *Arhopalus tristis*, *Melanophila acuminata*.

2160. Wooded meadows**Description**

Sparse stands where trees and bushes may occur in small groups. Mowing may be ceased or may continue.

Distinctive features:

- in wooded meadows grown over with brushwood, single old trees whose lower branches have not fallen off occur;
- wooded meadows where mowing continues are rich in species, especially in grass species;
- exposure of trees to the sun essential.

Examples of characteristic species:

Lichens: *Acrocordia gemmata*, *Arthonia vinosa*, *Bacidia rubella*, *Chaenotheca chlorella*, *Gyalecta ulmi*, *Lobaria pulmonaria*, *Pertusaria pertusa*, *Sclerophora spp.*;

Bryophytes: *Anomodon attenuatus*, *Isothecium alopecuroides*, *Metzgeria furcata*, *Neckera pennata*;

Coleoptera: *Agrilus mendax*, *Ampedus nigroflavus*, *Dicerca alni*, *Liocola marmorata*, *Lymexylon navale*.

2170. Hazelnut brush**Description**

Broad-leaved groves with hazelnut domination. Mainly former agricultural land that has turned into hazelnut brush as a result of succession.

Distinctive features:

- mosaic structure;
- long-term continuity of hazelnut trees;
- occurrence of old hazelnut trees;
- natural thinning.

Examples of characteristic species:

Fungi: *Ceriporea purpurea*, *Ceriporia reticulata*, *Geastrum spp.*, *Phellinus ferruginosus*;

Bryophytes: *Anomodon attenuatus*, *Isothecium alopecuroides*, *Metzgeria furcata*, *Mnium hornum*;

Coleoptera: *Melandrya dubia*.

2180. Single big trees

Description

Trees that are, either on their own or along with a group of similar trees, sufficiently big to support a viable population of a biotope-specific species.

Distinctive features:

- a very old and very big tree or a group of such trees;
- a very big dead standing tree or down tree;
- occurrence of dead branches;
- characteristic holes and hollows, especially in oaks;
- exposed to the sun.

Examples of characteristic species:

Lichens: *Acrocordia gemmata*, *Arthonia vinosa*, *Bacidia rubella*, *Chaenotheca chlorella*, *Chaenotheca phaeocephala*, *Cliostomum corrugatum*, *Gyalecta ulmi*, *Lobaria pulmonaria*, *Pertusaria pertusa*, *Sclerophora spp.*;

Coleoptera: *Boros schneideri*, *Cossonus cylindricus*, *Gnorimus nobilis*, *Liocola marmorata*, *Lymexylon navale*, *Mycetochara spp.*, *Mycetophagus quadripustulatus*, *Osmoderma eremita*.