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## Manual

### Abiotik Parameters

#### Assessment of habitat parameters

A Project by:



Hydrobotany



Department of  
Limnology and  
Hydrobotany



University of Vienna

The Project is  
powered by



FDG Austria

The Project is  
financed by



Federal Ministry for  
Education, Science  
and Culture

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## Abiotik Parameters

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### Assessment of habitat parameters

In all survey units the habitat parameters are assessed. These are: Bank structure, sediment type, flow class, Secchi depth transparency (Transparency Ratio is optional), connectivity type, and land use type (CORINE-System) in the areas adjacent to the river or any other water body type. Each subdivision of these parameters is characterized by a specific number code.

If you want to declare more than one parameter you must separate the values with a "\" sign. For Example:

- Bank structure is rocks with sand between you indicate as: 1\4
- Bank structure sand with sometimes a rock would be: 4\1

#### 1. **Bank structure:**

refers to the upper littoral, extending over the water level during mean discharges.

1. *rocks, large blocks or stones, bank protection, rip-rap, Mega-, Macro-, Mesolithal (> 6,3 cm)*
2. *gravel (Microlithal & Akal, 0,2 – 6,3 cm)*
3. *sand (Psammal, 0,063 – 0,2 cm)*
4. *fine substrate, Pelal (< 0,063 cm, predominantly inorganic)*
41. *fine, gentle/flat slope/gradient*
42. *fine, vertical/steep slope/gradient*
5. *concrete or other artificial/non-indigenous embankment material*
6. *floating mats ("Plaur") or other organic material*

#### 2. **Sediment type:**

this part of the substrate in the littoral of the river or other type of water body where the aquatic vegetation is growing.

1. *solid rock, rip-rap or Mega-, Macro- & Mesolithal (> 6,3 cm)*
2. *gravel, Microlithal & Akal (0,2 – 6,3 cm)*
3. *sand, Psammal (0,063 – 0,2 cm)*
4. *fine predominantly inorganic substrate, Pelal, < 0,063 cm)*
5. *artificial, concrete, asphalt, non-indigenous rip-rap*
6. *detritus or other organic material*

3. **Connectivity type:**

this parameter is essential for categorise the hydrological dynamics in the aquatic plant habitats.

1. *small side/secondary channel*
21. *oxbow, inflow from lower end*
22. *oxbow, Inflow from upper end*
3. *oxbow, semi-separated, no permanent vegetation in connection area, which is flooded at minimum < 2years*
4. *oxbow, separated, except during floods, permanent vegetation in connection area*
6. *water body outside dam, running water*
61. *water body outside the flood protection dam, running water*
62. *water body outside dam, still water*
81. *floodplain lake, with surface water connection*
82. *floodplain lake without surface water connection except during floods*
85. *floodplain lake with permanent surface water connection*
90. *reservoir*
98. *Large secondary channel*
99. *Main channel of Danube or tributary*

4. **Landuse type:**

number codes of the typology follow the CORINE system of land use types and **must not** be changed. For more detailed information some have been slightly modified.

1. *artificial surfaces*
11. *urban fabric, (urban centres, discontinuous built-up areas)*
11908. *village*
12. *industrial, commercial, transport units (road and rail networks and associated land, port areas, shipyards)*
13. *mine, dump, construction sites (mineral extraction sites, gravel-, sand-, clay-pits, dump sites, areas under construction or development)*
14. *artificial, non agricultural, park, cemeteries, sport facilities (e.g. golf grounds, open-air theatres, etc.)*
21. *arable land (incl. fallow lands up to 3 years abandoned, greenhouses)*
22. *permanent crops (vineyards, orchards, berry fruit plantations, hop plantations, oil-bearing rose plantations, willow plantations)*
23. *pastures*
24. *herterogeneous agricultural areas*
31. *forest*

- 311. *broad leaved forest, including poplar and other woody species plantations in riparian areas*
- 312. *coniferous forest*
- 313. *mixed forest*
- 32. *scrub*
- 33. *open space, little/no vegetation (beaches, dunes, sands, river banks, bare rock)*
- 34. *inland wetlands*
- 411. *inland marshes*
- 5112. *canals (artificial)*

#### 5. **Flow class:**

the current velocity of the water next to, or just above, the plant stands.

Experience shows that the ability to accurately estimate the flow in four classes is quickly gained. Estimates can be proved by surface flow assessment, using paper clips, leaves of wood pieces and measuring the time used for passing through a defined distance.

- 1. *no flow, stagnant*
- 15. *constant change between no flow and cataract (Slovenia, river with natural travertine barrages)*
- 2. *low flow velocity, from just visible ( $>0$  -  $<30$  cm.s<sup>-1</sup>)*
- 3. *medium flow velocity (35-65 cm.s<sup>-1</sup>)*
- 4. *high flow velocity ( $>70$ cm.s<sup>-1</sup>)*

#### 6. **Secchi depth transparency:**

use white plastic or metal disk, 30 cm in diameter, best attached to a graded pole (on strings it is a problem in running water). **Readings in 5 cm intervals** are of adequate accuracy with regard to the movement of the waves and boat