

3.3 The vegetation overview of investigated sites

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Non-reclaimed sedimentation basins represent sites that are hostile for vascular plants because the harsh physical environment (Hroudová & Zákřavský 2004) and the extreme chemical properties of the soil (Rauch 2004) cause germination, establishment (Jiráčková & Dostál 2004), and growth limitations (Vaňková & Kovář 2004). For example, there was no seed germination on the bare ground in an experiment in Chvaletice ore washery (Jiráčková & Dostál 2004). As a consequence, derelict sedimentation basins are dominated by stress-tolerant species that, once established, are able to survive for a long time despite the hostile environment (pioneer trees *Betula pendula*, *Populus tremula*, clonal herbs *Calamagrostis epigeios*, *Phragmites australis*, and others, Vaňková & Kovář 2004). Although the species diversity of sedimentation basins is lower than that in the surrounding landscape, the basins form a habitat of unique character (Vaňková & Kovář 2004). In general, the following characteristics of surveyed localities support this statement.

1) The *Měděnec* ore sedimentation basin

This locality is free of tree and shrub layer, only seedlings and isolated young trees (*Betula pendula*) occur accidentally. The following herbs are the most frequent on the locality: *Deschampsia cespitosa*, *Tussilago farfara*, *Taraxacum* sp., *Agrostis stolonifera*, *Epilobium angustifolium*, *Achillea millefolium*, *Sagina procumbens*, *Cerastium holosteoides*.

2) The *Radvanice* ore sedimentation basin

The locality is partly overgrown by *Pinus sylvestris* (planted, Vaňková 2004), *Picea abies*, *Betula pendula* and *Alnus*

incana with its centre being almost free of woody vegetation. The centre of the locality is surrounded by dense growth of *Phragmites australis*, but the most central part is nearly vegetation free with some sprouts of *Phragmites* and some tussocks of halophilous species *Puccinellia distans*. Some of the rare and even endangered species occur there (*Epipactis atrorubens*, *Linum catharticum* etc.). The other frequent species follow: *Agrostis stolonifera*, *Taraxacum* sp., *Prunella vulgaris*, *Eupatorium cannabinum*.

3) The *Dvůr Králové I* ash sedimentation basin

The washery is overgrown mainly by *Phragmites australis*. The other species are for example: *Salix purpurea*, *S. cinerea*, *Tussilago farfara*, *Phalaris arundinacea*, *Tanacetum vulgare*.

4) The *Ostrov II* ash sedimentation basin

The surface of the basin is vegetation free except of patches of *Phragmites australis* and *Salix cinerea*, which are able to break through the newly deposited layers. Seedlings of *Pinus sylvestris* occur accidentally. This sharply contrasts with the situation reported by Vaňková (2004), she found there 108 species of vascular plants. Also the earlier photography (Vaňková 2004) indicates there a mosaic of relatively large vegetation patches, small pools, and vegetation-less patches. This indicates high dynamics of the surface that depends on technological processes.