

Abstract

Long-term and intensive human use of watercourses has led to their considerable degradation. Recently, there has been an effort to improve the ecological status of aquatic ecosystems, based on studies of hydromorphological characteristics of natural watercourses and identification of reference conditions.

The aim of this thesis was the hydromorphological survey and an identification of reference conditions of the Jizera River. The selection of sites suitable for identification of reference status was based on pre-set criteria determined on remote sensing data, which eliminated significant anthropogenic impacts on the channel and floodplain. The survey using River Habitat Survey (Environmental Agency, 2003), Hydroecological Monitoring (Langhammer et al., 2014) and REFCON (Šmerusová a Matoušková, 2014a) methods was conducted in selected sites. Sites where hydromorphological conditions correspond with very good class, according to Hydroecological Monitoring, were used for identification of the type-specific reference conditions. Physico-chemical characteristics according to ČSN 757221 (1998) and Rosendorf et al. (2011) and the biological quality element macroinvertebrates according to Opatřilová et al. (2011) were also evaluated. Physico-chemical characteristics reached class I – II (ČSN, 1998) and good status (Rosendorf a kol., 2011). The biological quality element macroinvertebrates ranged from good to damaged status (Opatřilová et al., 2011).

The ecological status assessment of the selected sites was based on the available hydromorphological, physico-chemical and biological data and was conducted in concordance with Water Framework Directive 2000/60/ES.

Key words: hydromorphological survey, reference status, ecological status, Water Framework Directive 2000/60/ES