



A Comparison Between Different Methods for Ecomorphological Assessment of Rivers

U. Lavrencic (1), A. Bizjak (1,2) and **M. Mikoš** (1)

(1) University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia,

(2) Institute for Water of the Republic of Slovenia, Ljubljana, Slovenia

(matjaz.mikos@fgg.uni-lj.si / Fax: +386-1251-9897)

When assessing ecomorphological status or quality of fluvial environment, many different methods are available. So a question arises, which method or several methods are appropriate in given fluvial environment and should therefore be applied under given conditions. The main aim of the study was to interrelate and to compare selected methods in the same fluvial environment of the relatively natural Dragonja River in S Slovenia. The Dragonja River can be classified according to the Rosgen classification into the following types: B1C & B2C in the upper river reach, B4c & B5c in the middle river reach, and E6 in the lower river reach.

The following 4 methods have been applied: the Stream Visual Assessment Protocol (SVAP, 4 unequally spaced classes), the IFF (Indice di Funzionalità Fluviale, 9 unequally spaced classes) method, the GSGB (Gewässerstrukturgütebewertung, 7 equally spaced classes) method and the recently proposed Synthesis Method (7 equally spaced classes). The assessment using the SVAP was done in April 2005 in the same 12 test transects, where ecomorphological assessment was done using the IFF method in October 2004 and the Synthesis Method in May 2003. The GSGB method was applied in May 2003, it only gives values in a reach not a transect.

The comparison between different methods was done using Pearson coefficient r with numerical values and with ranks for 12 transects under investigation. The correlation between resulted assessments done by different methods was generally high ($r > 0.8$). The largest deviations between methods were found in the lower Dragonja River reach, which is anthropogenically changed to an artificially aligned channel with low ecomorphological value.