



Protective Planning of River Corridors as a Challenge of Contemporary River Restoration Approaches

A. Bizjak (1), I. Kavcic (2), J. Dodic (3)

(1) Institute for Water of the Republic of Slovenia, Ljubljana, Slovenia, (2) Institute for Water of the Republic of Slovenia, Ljubljana, Slovenia, (3) Institute for Water of the Republic of Slovenia, Ljubljana, Slovenia

(ales.bizjak@izvrs.si / Phone: ++386 1 47 75 333)

According to the results of the first risk assessment analysis on rivers in Slovenia, hydromorphological risk exists for some water bodies, that they will not achieve the Water Framework Directive (Directive 2000 / 60 / EC) (2000) (hereinafter called: WFD) environmental goal, which is good ecological status for all waters until 2015. Thus, due to the demands of the WFD as well as the new Slovene Law on Waters (2002) (hereinafter called: ZV-1), on rivers and river reaches, consisting of such water bodie(s), suitable hydromorphological restoration works will have to be undertaken. However, durable hydromorphological restoration solutions can be assured only if as many as possible natural and anthropogenic factors of river restoration are taken into consideration. One of the possible approaches is protective planning of river corridors, which besides ecological and hydromorphological processes takes into account also adjacent land use and other spatial development issues as well as characteristics and spatial demands of suitable care of restored areas after selected restoration works are completed. Protective planning of river corridors understands river corridor restoration as a process of reunion of river and its intrinsic river corridor influential areas, this way forming bigger areas of more stabile surface and underground water ecosystems. As the task is not a simple one, a decision support model for the selection of the priorities of restoration sites is needed, which consists of: land use along river corridor, type and level of anthropogenic hydromorphological alterations in river corridor, results on water bodies risk analysis due to hydromorphological impacts, level of anthropogenic fragmentation of the flooding areas as well as of the wetlands along river corridor, type and level of preservation of adjacent landscape, aplicability of the width of the

riparian belt, as defined in ZV-1, market price of the riparian land and estimation on costs of restoration works. Based with the decision support model for the selection of priorities in restoration sites, river corridors with biggest hydromorphological deficit on one hand and biggest restoration potential on the other hand can be selected. In addition, the model assesses also the general level of preservation of the adjacent landscape as well as the economic point of the restoration process, which enables to determine river corridors with lowest restoration costs.