Dimensioning of buffer strips in the Slovak Republic

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Localization, width, and vegetation cover of buffer strips depend on their planned purpose. Anti-erosion contour buffer strips, as their name says, are often placed in the direction of contour lines. The distance between them may not exceed so-called critical slope length – L_{cr}, which we calculate with using 3 types of the equations. In the Slovak Republic, we use two equations for the calculation of the minimum width of contour buffer strips - D_{min}. In the first equation (Cablík-Jůva, 1963) is the width of contour buffer strips a function of the L_{cr}, design rainfall intensity, infiltration capacity of soil on adjoining slope and infiltration capacity of soil on contour buffer strips. In the second equation (Antal,1986). is the width of contour buffer strips a function of L_{cr}, depth of design rain, the value of the CN of adjoining slope and the CN value of contour buffer strips.

Consideration that the localization of riparian buffer strips is already determined by location of the stream, it is necessary to dimension their width, eventually propose vegetative species selection. Currently is used no formula to calculate the width of the riparian buffer strips in Slovak Republic. There are only recommended values of riparian buffer strips width, where a minimum value of riparian buffer strips width is 4.5 m and maximum recommended value of grass riparian buffer strips width is 26 m, depending on the adjoining slope steepness and on the erosion intensity of the adjoining slope (Muchová-Vanek et al, 2009).

Nowadays we are working on the equation for calculation of the minimum riparian buffer strips width - D_{min}, which takes into account not only the characteristics of adjoining areas, but that would take into account the required riparian buffer strips functions, too.

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