Comparison of physico-chemical characteristics of sediments from different land use types

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\textbf{ABSTRACT}

Non-point source (NPS) pollutants are generated and washed off from various land uses during storm events. Different pollutants and soil particles can be discharged to stream and lakes. In this study, three different land use types such as urban, agricultural, and livestock areas were selected to determine the physico-chemical characteristics of the discharged sediments. The results showed that sediment generated from urban areas consists of large particle sizes such as sand. Moreover, sediments from agricultural and livestock areas mainly consisted of silt and sand particles. The sediment from urban areas showed the highest content of non-biodegradable organic matters, which was mainly composed of hydrocarbons caused by vehicular activities, compared to other land use types. On the other hand, the livestock area showed high-nitrogen content concentration caused by livestock wastewater. Comparing the metal concentration in sediments coming from different land use types showed that the generated metal pollution was below the Korean soil standard. This implied that these sediments can be recycled. However, the results also showed that establishment of best management practices are necessary to mitigate water pollution. Furthermore, management practice from pollution source sites to river entrance should be practiced.

\textit{Keywords:} Agricultural; Land use types; Livestock; Sediments; Urban

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