Effects of Land Use in Present and Optimum Conditions on Sedimentation of Watershed (Case study: Shur & Shirin Watershed in Shiraz)

A. Talebi[1*], F. Souzandehpour[1], M. T. Dastorani[2], A. A. Karimian[1] and M. Soltani[3]

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Abstract

Land use is one of the basic factors for controlling the hydrologic behavior of watersheds. Therefore, it is generally assumed that land use change is the cause of variation in hydrological dynamic of watersheds. In this paper, the land use effect in present and optimum conditions on sedimentation of watershed was studied using GIS and applying the HEC-HM model in Shoor-Shirin watershed in Fars province. Land use map was provided based on curve number map, and this map was considered as the important factor for HEC-HM model. The results showed that the estimated sediments in two different conditions were completely different. In fact, the estimated sediment in the optimum condition was 12% less than the current land use. This means that land use change and land use type play important roles in decreasing or increasing the peak flow and erosion.

Keywords: Land use, optimum condition, sedimentation, Hec- Hms mode.

1. Dept. of Watershed Management, Faculty of Natur. Resour., Yazd Univ., Yazd, Iran.
2. Dept. of Watershed Management, Faculty of Natur. Resour., Ferdowsi Univ. of Mashhad, Mashhad, Iran.
3. Natur. Resour. Res. Center of Yazd Province
*: Corresponding Author, Email: talebisf@yazd.ac.ir

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