

Stock Tank Characteristics and Performance in the Beaver Creek Watershed, North-Central Arizona

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ABSTRACT

The Beaver Creek Watershed is located in southern Coconino and southeastern Yavapai Counties, Arizona. This 472 square mile watershed contributes to Beaver Creek which flows into the Verde River. The objectives of this study were: 1) to monitor a network of stock tanks in the watershed on a bi-weekly basis to document seasonal fluctuations in water levels over one year; 2) to investigate the impact of stock tanks on local hydrology by determining the number of times the tanks fill during one year; and 3) to determine a set of dependent variables which would quantify stock tank performance, and a set of independent variables representing characteristics of the tanks and their drainage basins which could affect the performance of the tanks. The relative importance of each of these independent variables in influencing tank performance was then determined through statistical analysis.