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**Effect of Soil Variables on an Alternative Method for Measuring Hydrology in Created Wetlands**

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Establishment of appropriate depth to water table is essential to the ecological success of a created wetland. Iron oxidation in steel rods placed in soil ('rusty rods') has been shown to provide a low-impact, low-cost approximation of water level in wetlands. The goal of this study was to determine the efficacy of 'rusty rods' at a wetland created on a clayey soil in Loudoun County, VA. During the 2012 growing season, steel rods were placed near shallow groundwater wells and a suite of soil variables were measured including bulk density, organic matter content, and particle size (% sand, silt and clay) in 24 locations throughout a 3.2-ha created wetland. After four-week incubation periods, rust depth was positively correlated with water table depth ( $R^2 = 0.415$ ,  $p < 0.001$ ), but soil environmental variables were not related to rust depth ( $p > 0.05$ ). We conclude that soil variables exert minimal influence on depth of rust formation; however, rusty rods were a moderately imprecise method of estimating depth to water table.