



Hydropedology in Action: Implications to Environmental Regulations in Pennsylvania, USA

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Numerous practical applications in our daily life call for expertise in integrated soil and water sciences including hydropedology. It has been suggested that hydropedology can contribute to our enhanced understanding of a variety of environmental, ecological, geological, agricultural, and natural resource issues of societal importance. These include, but not limited to, water quality, soil quality, watershed management, wetland protection, nutrient cycling, contaminant fate, waste disposal, precision agriculture, climate change, and ecosystem restoration. In this paper, we will examine five important environmental regulations in Pennsylvania, USA, to illustrate hydropedology in action. These regulations are: 1) wetland protection – Pennsylvania Chapter 105 regulations of 1923 and federal Clean Water Act, Section 404 permit; 2) onlot sewage disposal – The Pennsylvania Sewage Facilities Act (Act 537) of 1966; 3) stormwater management – Pennsylvania Stormwater Management Act 167 enacted in 1978; 4) nutrient management – The Pennsylvania Nutrient Management Law (Act 6) of 1993; and 5) state water plan – The Water Resources Planning Act (Act 220) of 2002. Practical examples will be used to demonstrate the real-world applications of these environmental regulations, and by doing so, to raise the awareness and appreciation of hydropedology in action.