Stream Discharge and Riparian Land Use Influence In-Stream Concentrations and Loads of Phosphorus from Central Plains Watersheds

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Abstract Total annual nutrient loads are aMf aboth

major ions has been documented (e.g., Jones and others 2001; Sponseller and others 2001; Dodds and Oakes 2006; Dow and others 2006

When significant (P \ 0.05) discharge/concentration relationships existed we developed models of discharge and TP daily load (TP_{dl}) to determine distribution of the total estimated load by flow frequency. These models used

80% of the current xQ. For the 90% peak flow reduction model the 37 days with the greatest xQ were assigned new

BfM –0.00393 0.915 * overall median). Relationships between land use and TP_c were generally consistent between overall median and BfM, though there tended to be a slight improvement ($\backslash$ 5%) in R^2 when land use was regressed against baseflow median versus overallent

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average of 88% of the total annual load occurred during

2001; Dodds and Oakes 2006), suggest that different factors are likely to influence TP_c across watersheds of differing sizes, with small watersheds more strongly impacted by conditions along small headwater streams, and large watersheds such as those included in the 25-site analysis presented here experience greater impacts from land use

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