

The burgeoning study of road ecology has developed over the past few decades with the understanding that roads have a variety of widespread ecological and hydrological effects on the watersheds in which they reside. This study seeks to evaluate the extent of the impact of unpaved roads within the Mad River watershed through the quantification of total runoff, total suspended sediment (TSS), soluble reactive phosphorus (SRP), and total phosphorus (TP) that enter road ditches across this subbasin of Lake Champlain. Six road segments, within various land cover and topographic settings in the Mad River basin, were monitored during the summer and fall of 2011. Preliminary results show a wide range of runoff and pollutant responses which may have been influenced by the varying topography and land uses surrounding them. Empirical field data will be used to develop a GIS-based model to estimate TSS, SRP, and TP loads in similar subwatersheds across the Lake Champlain Basin.