

We examined algal metrics as indicators of altered watershed land cover and nutrients to inform their potential use in monitoring programs. Multiple regression models, in which impervious cover explained the most variation, indicated concentrations <0.202 mg/l NO_3 and <0.015 mg/l TP as potential goals for protection. Streams with nutrient concentrations greater than these values had greater percent impervious cover and less forest in upstream watersheds, greater algal biomass and percentages of tolerant diatoms, and lower percentages of sensitive diatoms than did low nutrient streams (Wilcoxon t-tests, $p < 0.01$). Low nutrient taxa declined at values near these concentrations and in relation to impervious cover, but high nutrient taxa increased in a more linear fashion. Stepwise multiple regression models indicated that the interaction of chemistry and watershed land cover typically represented 65-79% of the total variation explained in diatom metrics. Ongoing examination of BMPs, sewerage practices, and discharge permits may further inform models, and management strategies, such as green infrastructure, and criteria development will be discussed.