

TRIAGE FOR THE URBAN STREAM: HEALING BIG PROBLEMS OVER TROUBLED, LITTLE WATERS

Dr. Richard R. Pardi, Environmental Science, Dr. Michael Sebetich, Biology
William Paterson University
300 Pompton Road
Wayne, New Jersey 07470

ABSTRACT

Regulatory criteria for water quality focus on symptoms rather than systems. For the restoration and protection of watersheds, this focus has the unfortunate consequence of obscuring the overall state of aquatic health of a watershed. Monitoring is necessarily conducted within the regulatory framework, but how, then, do you make the transition to healing? You may know a sick stream when you see it, but how do you define sick? More importantly, how do you score and then rank multiple traumas?

As an example of a monitoring program aimed at supporting a 319(h) project, we present the results of two seasons of monitoring on an urban stream, Molly Ann Brook, in Passaic County, New Jersey. The stream is a small (mean average discharge ~12 cfs) tributary of the Passaic River entering the River just above the Great Falls in Paterson. At its source the watershed is urban wilderness; over the lower half of the watershed the stream is physically degraded by flood-control channelization. High fecal coliform concentrations and habitat impairment as indicated by macro-invertebrate survey have triggered the stream restoration process. High nutrient content, wide swings in dissolved oxygen, algal blooms and occasional fish kills, among other ills, all point to a stream under environmental stress.

The project goals as driven by the regulatory process must be the reduction in bacteriological load and the restoration of healthy habitat along the length of the stream. But, what is the best way to achieve those goals? Is medical triage a valid metaphor for the restoration process of an urban watershed? Can it promote action by bridging the gap between regulatory-driven monitoring programs and science-based restoration process?

KEYWORDS

Urban streams, restoration, monitoring, systems, health