

Development of a fish assemblage tolerance index for the National Rivers and Streams Assessment

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Whittier et al (Trans. Amer. Fish. Soc. 136:254-271) developed an assemblage tolerance index (ATI) for stream fishes in the western US based on quantitative tolerance values developed for individual fish and amphibian species. The ATI is conceptually similar to the Hilsenhoff Biotic Index developed for benthic macroinvertebrates, but is based on species tolerances to general human disturbance. We applied the general process of ATI development of Whittier et al. to fish data collected from ~1,900 stream and river sites across the conterminous U.S. in 2008-2009 as part of the U.S. EPA's National Rivers and Streams Assessment (NRSA). Quantitative tolerance values were derived for those fish species collected in NRSA, and an ATI metric was calculated from the individual species tolerance values. We compared the tolerance values to those from other published information, and evaluated the ATI metric for repeatability and responsiveness to disturbance. The database of species tolerance values derived from the NRSA data and the ATI metric in general represent improved tools for use in bioassessment of stream and river systems. This is an abstract and does not necessarily reflect EPA policy. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.