

A Vegetation Index of Biotic Integrity (VIBI) for Wetlands and Preliminary Wetland Aquatic Life Use Designations

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Abstract

An Index of Biotic Integrity (IBI) for Wetlands has been developed using vascular plants as the indicator taxa group for emergent, forested, and shrub dominated wetlands in the State of Ohio. Very strong correlations between the Vegetation IBI (VIBI) and human disturbance, as measured by a semiquantitative disturbance scale, were observed, and vascular plants appear to be a useful and cost-effectively sampled taxa group that is responsive to human disturbance. To date, wetlands have been sampled in two ecoregions and represent multiple hydrogeomorphic (HGM) and plant community classes. The current working hypothesis is that while certain wetland types may differ in their floras at the species or community level, these species or communities behave in a similar manner in response to human disturbance. Current results suggest that 20-30 potential hydrogeomorphic or plant community classes may be condensable into 4 to 8 classes for the purposes of vegetation IBI development and application. Relatively little variation due to regional, hydrogeomorphic, or plant community factors has been observed to date. Preliminary wetland aquatic life use designations and numeric biological criteria are proposed.