

Virginia Dept of Environmental Quality's (DEQ) Wetland Condition Assessment Tool

DEQ's Office of Wetland and Stream Protection (OWSP), in collaboration with the Virginia Institute of Marine Science (VIMS), has developed a wetland monitoring and assessment protocol to provide an ongoing assessment of the status of the Commonwealth's wetland resources and the success of both wetland regulatory and voluntary programs.

The assessment protocol consists of a three-tiered approach using comprehensive coverage of all mapped non-tidal wetlands to achieve a GIS based analysis of remotely sensed information (Level I). The method characterizes the capacity of the wetland to provide water quality and habitat services using remotely sensed data. Level I scores wetland types based on the habitat and water quality stressors associated with surrounding land use types. Levels II and III are intended to calibrate and validate the model that is used for Level I analysis. The relationship between structure and function is validated by intensive study of ecological service endpoints.

DEQ is able to measure the protection of our more vulnerable wetlands (i.e. isolated wetlands), by comparing the condition of wetland habitat and water quality parameters, as a function of the assessment scoring over time. The data collected from the assessment has been compiled into an online GIS-based wetland data viewer identified as the Wetland Condition Assessment Tool (WetCAT). One unique aspect of WetCAT is its online interactive user interface, which allows users to overlay data such as previously permitted impacts and impaired waters and run various geoprocessing tools to visualize cumulative impacts, downstream flow, and upgradient drainage areas.

WetCAT is used to evaluate wetland condition over time; to make better permitting decisions relative to cumulative impacts, avoid and minimize wetland loss; evaluate performance of compensatory wetland mitigation in replacing wetland acreage and function; and evaluate the effectiveness of our regulatory program. The goal of WetCAT is to support DEQ's regulatory decision-making, allow reporting of wetland condition, and provide information for policy development. One of the advantages of the Virginia protocol is a comprehensive assessment of secondary impacts to wetland resources arising from activities that do not directly impact wetlands. This information can guide policy discussions on general land use management, stormwater, and land use planning. Linking decisions in these areas to wetland policy will be essential to achieving Virginia's statutory requirement of no net loss of wetland acreage and function, and aid local governments with planning tools at a watershed level. Additional data sets and GIS layers will allow Virginia to continue to develop a wetland data viewer for use by regulatory agencies and the general public.

<http://www.deq.virginia.gov/Programs/Water/WetlandsStreams/MonitoringAssessmentStrategy.aspx>