

Establishing Nutrient TMDLs for Multiuse Reservoirs

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Abstract

Nutrient over-enrichment of surface waters has been a long-standing problem throughout the United States. According to EPA's 1998 305(b) Report to Congress, nutrients were the leading cause of impairment to lakes and reservoirs. Like the majority of other States, Alabama has several impaired waterbodies as a result of excessive nutrient loading. In response to this "growing" concern, the Alabama Department of Environmental Management (ADEM) has made the development and implementation of nutrient criteria and subsequent Total Maximum Daily Load (TMDL) development a top priority within Alabama's Water Protection Programs.

In 1996, five of the six reservoirs located within the Coosa River Basin were identified as being impaired for nutrients and subsequently placed on Alabama's 303(d) list of impaired waterbodies. These reservoirs serve multiple uses, such as hydroelectric power generation, flood control, water supply, fishing and swimming, therefore setting the appropriate nutrient targets and establishing the appropriate pollutant (i.e. phosphorus) load reductions to meet such targets is a complex and difficult undertaking. This presentation is intended to provide an overview of the methods used by ADEM to develop the TMDLs for several reservoirs within the Coosa River Basin of Alabama. Specific topics of discussion will focus on nutrient target/criteria development and the various modeling tools, data and approaches used in developing the TMDLs.