

FINAL

Comment Response Document Regarding the Total Maximum Daily Load of Phosphorus and Sediments to Lake Linganore Frederick County, MD

Introduction

The Maryland Department of the Environment (MDE) has conducted a public review of the proposed Total Maximum Daily Load (TMDL) of phosphorus and sediments to Lake Linganore. The public comment period was open from November 22, 2002 to December 21, 2002. MDE received one set of written comments.

Below is a list of commentors, their affiliation, the date comments were submitted, and the numbered references to the comments submitted. In the pages that follow, comments are summarized and listed with MDE's response.

List of Commentors

Author	Affiliation	Date	Comment Number
Paul H. Lee	Engineering Department; City of Frederick	December 11, 2002	1,2

Comments and Responses

1. The commentor stated that the target of 90% reduction in phosphorus is not realistic, given that the major source of the loading is from nonpoint sources. The commentor also notes that the administration and enforcement of such reductions will be difficult.

Response: The nutrient and sediment reductions in the proposed TMDL are challenging but not impossible. These are long-term goals that will be addressed in an iterative manner. Additionally, there are numerous State and federal programs that offer technical and financial assistance for implementation of these control strategies.

2. The commentor inquired about the impacts of the deposition of deciduous tree leaves into the lake on the dissolved oxygen demand and sedimentation. The commentor advised that the City of Frederick and Frederick County are currently studying the sedimentation and lake capacity from a water supply capacity perspective and are willing to provide a copy when the study is complete.

Response: The phosphorus TMDL *per se* is developed using the Vollenweider relationship and Carlson's Trophic State Index, which ascertain the assimilative capacity of the impoundment irrespective of the source of nutrient loading. The initial estimate of the current phosphorus load includes the component from forested land, which in turn considers nutrient loads from deciduous leaves in the watershed.

FINAL

Any biochemical oxygen demand (BOD) resulting from direct leaf deposition to the lake is small in comparison to the effects of anthropogenically accelerated eutrophication owing to agricultural and urban nonpoint source phosphorus loads. This is especially true in the case of Lake Linganore, which has a watershed-to-lake ratio of 236:1

Similarly, the volume of leaf material is small compared with that of nonpoint source sedimentation. In terms of the lake's capacity, the impact of leaves is negligible, given the transitory nature of leaf material in comparison to inorganic sediments.

MDE would appreciate receiving a copy of the aforementioned report when it is complete.