

1.0 INTRODUCTION

Ballenger Creek was selected as the second watershed to be assessed under Frederick County's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer Systems Discharge Permit, Permit Number MD0068357. This watershed was considered a high priority for assessment because growth in the region has been expanding southward from the City of Frederick for some time into the north-central and eastern portions of Ballenger Creek's 23.4 square mile watershed. Large tracts of agricultural and forested land are present in the western half of the watershed; however, residential uses also appear to be slowly expanding in this area. As part of the overall NPDES support contract for Frederick County, Versar, Inc. began the assessment of Ballenger Creek watershed in March 2000.

Because geology, vegetation, and land use all influence watershed hydrology, water quality, and aquatic habitat, the focus of this study was to assess current conditions in the Ballenger Creek watershed, and then use this information to identify opportunities to improve water quality. As such, the watershed assessment was tailored to gather data on the watershed's natural resources and then consider rural and urban stormwater impacts in both the present and future. Knowledge of present and future stormwater impacts was then used to develop recommendations that will help Frederick County implement long-term strategies for stormwater management (SWM).

Data gathered in this assessment will also serve as a baseline against which the efficacy of future best management practices (BMPs) to control non-point source pollution can be measured. As additional BMPs are implemented, continued monitoring will provide data that can be compared to this baseline and other historical information. Any reduction in pollutants (i.e., improved water quality) provided by the new BMPs should be evident in the monitoring data. A process of adaptive management (based on the long-term monitoring), maintenance of existing BMPs, and the introduction of additional BMPs and source controls, should effectively reduce non-point source pollution within the study area.

This report documents the findings of the Ballenger Creek watershed assessment. Assessment components include a description of methods (Section 2), general description of the watershed (Section 3), an assessment of existing conditions in the watershed (Section 4), an assessment and ranking of water quality problems and identification of opportunities to improve water quality (Section 5), and development of a watershed water quality plan (Section 6).

