

1.0 INTRODUCTION

The Georgia Environment Partnership (GEP) has recognized the need to meet and exceed Georgia's waste reduction goals. One primary goal for Georgia is the reduction of traditional waste products presently going to landfills. To achieve these goals the University of Georgia's Department of Biological and Agricultural Engineering (BAE) is working within GEP to complete waste characterization studies pertaining to forest products, textiles, food processing industries, and municipal biosolids production.

This report quantifies and characterizes current municipal biological wastewater treatment facilities' biosolids production in Georgia; critically analyses the five biosolids disposal methods currently used throughout the state; and provides education, policy and research recommendations for increasing the beneficial reuse of biosolids in the future. In addition the report provides a brief outline of a typical municipal wastewater treatment system, presents a sampling of various public opinions on beneficial reuse of biosolids, and outlines emerging technologies in biosolids management.

This report does not address biosolids removed from municipal wastewater treatment lagoon systems since solids removal from these systems are performed on an irregular, limited basis. Also, biosolids produced on-site by industries operating privately owned wastewater pretreatment systems are not addressed in the scope of this report.

A wastewater treatment plant produces two products, treated water and biosolids. Currently two terms, "sludge" and "biosolids", are used in the wastewater industry to describe the residual solids removed during the treatment process. Many wastewater professionals use these terms interchangeably; while others define sludge as the solids removed from the wastewater treatment process prior to any stabilizing treatment, and biosolids as sludge which has been treated and approved for beneficial reuse. For the purpose of this report, biosolids are the organic based solids removed from sewage during the wastewater treatment process that have the potential for beneficial reuse following acceptable stabilizing treatment.

Data for this report was obtained through the National Pollutant Discharge Elimination System (NPDES) and biosolids inventoried by the Georgia Environmental Protection Division (EPD). The most current databases are from 1997. Over time, some wastewater facilities have

modified or changed their biosolids disposal operation. These changes may or may not show up on the updated permit database unless the EPD makes a detailed assessment of individual operations. The percentages of these changes is relatively small when looking at the total number of facilities operating in Georgia, but it does lead to gaps in the data that may slightly skew results. Attempts were made to verify information with regard to biosolids disposal by plants (over 1 million gallons per day (MGD)) that handle 98% of Georgia's biosolids.