

THE REVEGETATION OF LANDFILL SLOPES¹

by

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Abstract. Erosion on landfill slopes not only results in the loss of soil, but also in potential damage to the surface soil cap covering the refuse. That damage can lead to several problems: (1) increased infiltration of rain, accelerating the production of leachate; (2) increased mobility of landfill gases and leachate; (3) exposure of refuse that attracts nuisance animals (eg. gulls, ravens); (4) reduced aesthetics; and, (5) increased costs of repair works. In a three year research study completed for the Ontario Ministry of the Environment (OMOE), all of these problems were encountered. That research program included work in three stages: (1) an overview of landfill erosion in the province; (2) identification of the best revegetation techniques; and, (3) establishment of demonstration plots. This paper will concentrate on a presentation of the final product of the three year study, a revegetation manual. The need for such a manual was reinforced during discussions with both landfill owners and operators, and regulators throughout the province. The existing techniques for revegetating closed landfills differed from area to area. There was no attempt to provide consistent direction or application of tillage, soil remediation, seeding or maintenance techniques. This was the case despite erosion problems being observed on 88% of landfills field checked. Interestingly, there were no revegetation efforts on two thirds of the sites reported on by OMOE officials. On the remaining one third, there were very few reports of anything other than the application of hydroseeding (without tillage, soil testing or followup maintenance). This paper presents the results of a Revegetation Manual produced in the final year of this study. It is intended to provide an easily comprehended and applied reference for anyone involved in the creation and maintenance of vegetation cover on landfills. The outline of the paper follows the manual's table of contents fairly closely in an effort to demonstrate the importance of the structure and composition of such a manual to the comprehension of the material by the user.

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