

immediately taken to check the action of the waves and currents along the bar in a manner similar to that now required west of the Eastern Gap.

In the second place, and this has a more direct bearing on the problem of sewage disposal and water supply now under consideration; there is indisputable and incontrovertible evidence that the *resultant* movement of all solid materials at the shore zone is westward, no matter what may be the direction of local movements at any given time. This movement is always associated with and accompanies the longshore currents movement, hence there is a master movement of the longshore currents westward. These currents extend out from the shore to beyond wave base.

It is also known, largely from investigations of the United States Weather Bureau, that in the western end of the lake there is a nearly constant movement of the waters as a **backset eddy**. Where the edge of this eddy approaches the north shore near Toronto island and westward, even during the periods when the movement of the surface water along the north shores is eastward, there is every reason to believe that this backset eddy continues on its course.

The local longshore currents westbound off Scarboro sometimes attain a velocity of nearly four miles per hour during a period of strong easterly winds. This means that any waste which would float or mix with the waters of the lake would occasionally reach the western end of the Island within two and a half hours from the time when it was discharged into the lake at any point near Victoria Park.
