The generation, propagation, attenuation and forces related to boat generated wake waves are currently being investigated due to increasing concerns regarding their impact on coastal and inland waterways. To ensure that these concerns are objectively addressed, a Decision Support Tool (DST) to assist in waterway management has been developed. The DST is based on standardised field measurements of boat wake waves, which have been specifically developed for this field of study, local wind wave energy calculations, and an assessment of the waterway’s erosion potential. Importantly, the tool incorporates both individual and cumulative wave energy calculations and a field methodology for assessing the erosion potential of a selected site. An interactive spreadsheet has been developed to assist in applying the DST at selected sites. Field testing of the DST has assisted in refining and validating the assessment methods. The DST can be easily adapted to assess the impact of boat wake waves in a variety of waterways and can be expanded to include additional vessels. While there is currently a large demand for this type of decision support tool in coastal and inland waterways, no alternative comprehensive method currently exist.