

Wakesurfing, Wakeboarding and Waterskiing: A Comparison of Wake Characteristics

Gregor J. Macfarlane¹

¹University of Tasmania Australian Maritime College

December 03, 2024

Abstract

Waterskiing has been a commonplace and generally well-accepted activity on inland waterways for many decades. More recently, there has been a significant increase in wakeboarding and wakesurfing, with the latter relying heavily upon ‘enhanced’ boat wake. This has seen an increase in issues such as shoreline erosion and damage to public and private property, often resulting in additional complications for those tasked with the management of sheltered waterways. This is most prevalent in situations where lateral distance is limited, such as rivers and small lakes, where there may be insufficient distance for the larger boat-generated waves to disperse and attenuate. This has become a hot topic, with disputes occurring at many locations – for example, there are known cases in at least 20 US States. This paper investigates the key differences in characteristics of the waves generated by typical waterski and wake boats, with and without wake enhancing devices. Measurements of the waves generated by a variety of recreational and wake boats were acquired from full-scale field trials. Results are presented graphically and compared with data from other published studies of a similar nature. It is confirmed that there are significant differences in both the height and energy of the maximum wave generated by the three different water sports (and to a lesser extent, wave period). Data is acquired at multiple locations over a relatively large lateral distance from the sailing line of the test boats which should assist regulators to identify management options for waterways with sensitive shorelines and vulnerable property.

Hosted file

GJM Wakesurfing Paper (RRA Version) 29Nov2024.docx available at <https://authorea.com/users/865828/articles/1246602-wakesurfing-wakeboarding-and-waterskiing-a-comparison-of-wake-characteristics>