

**Table 5.4** Critical overtopping discharges and volumes (Allsop et al, 2005)

	$q$ mean overtopping discharge (m <sup>3</sup> /s per m length)	$V_{max}$ peak overtopping volume (m <sup>3</sup> /per m length)
<b>Pedestrians</b>		
Unsafe for unaware pedestrians, no clear view of the sea, relatively easily upset or frightened, narrow walkway or proximity to edge	$q > 3 \cdot 10^{-5}$	$V_{max} > 2 \cdot 10^{-3} - 5 \cdot 10^{-3}$
Unsafe for aware pedestrians, clear view of the sea, not easily upset or frightened, able to tolerate getting wet, wider walkway	$q > 1 \cdot 10^{-4}$	$V_{max} > 0.02 - 0.05$
Unsafe for trained staff, well shod and protected, expected to get wet, overtopping flows at lower levels only, no falling jet, low danger of fall from walkway	$q > 1 \cdot 10^{-3} - 0.01$	$V_{max} > 0.5$
<b>Vehicles</b>		
Unsafe for driving at moderate or high speed, impulsive overtopping giving falling or high velocity jets	$q > 1 \cdot 10^{-5} - 5 \cdot 10^{-5}$	$V_{max} > 5 \cdot 10^{-3}$
Unsafe for driving at low speed, overtopping by pulsating flows at low levels only, no falling jets	$q > 0.01 - 0.05$	$V_{max} > 0.1$
<b>Marinas</b>		
Sinking of small boats set 5–10 m from wall, damage to larger yachts	$q > 0.01$	$V_{max} > 1 - 10$
Significant damage or sinking of larger yachts	$q > 0.05$	$V_{max} > 5 - 50$
<b>Buildings</b>		
No damage	$q < 1 \cdot 10^{-6}$	
Minor damage to fittings etc	$1 \cdot 10^{-6} < q < 3 \cdot 10^{-5}$	
Structural damage	$q > 3 \cdot 10^{-5}$	
<b>Embankment seawalls</b>		
No damage	$q < 2 \cdot 10^{-3}$	
Damage if crest not protected	$2 \cdot 10^{-3} < q < 0.02$	
Damage if back slope not protected	$0.02 < q < 0.05$	
Damage even if fully protected	$q > 0.05$	
<b>Revetment seawalls</b>		
No damage	$q < 0.05$	
Damage if promenade not paved	$0.05 < q < 0.2$	
Damage even if promenade paved	$q > 0.2$	