Everts (1985) presented a sediment budget approach which encompassed and extended beyond the Bruun Rule. The method was applied to Smith Island, VA and a 75 km segment of the Outer Banks of North Carolina to determine the portion of the shoreline retreat explainable by sea level rise. It was found that 55% and 88% of the measured shoreline retreat was attributable to sea level rise at Smith Island and the Outer Banks, respectively. The remaining component was interpreted to be due to gradients in longshore sediment transport. The sediment budget approach applied by Everts recognizes the limitations of the Bruun Rule and the need to consider a more complete framework for representing and interpreting shoreline response to sea level rise.

Dean and Maurmeyer (1983) have generalized the Bruun Rule to barrier island systems that retreat as a unit filling in on the bay side to maintain their width as they erode on the ocean side. Employing the notation of Fig. 7.5, the shoreline recession, R, due to a sea level rise, S, is

$$R = S \frac{(L_L + W + L_o)}{h_{b_o} - h_{b_L}} \tag{7.4}$$

It is clear from Eq. 7.4 that the recession will always predict a greater erosion than the Bruun Rule because: a) a greater horizontal dimension is being elevated with sea level rise (the entire active barrier island width), and b) the portion of the profile now being "mined" to yield compatible sediment is the difference between ocean and bay depths, $h_{b_o} - h_{b_L}$, i.e. smaller. This equation simplifies to the Bruun Rule if only the ocean side of the barrier system is active. Finally it is noted that as the bay depth h_{b_L} approaches the active ocean depth, h_{b_o}, Eq. 7.4 predicts an infinite retreat rate. This may explain in part the phenomenon of "overstepping" in which barrier islands, rather than migrating landward retaining their identity in the process, are overwashed and left in place as a linear shoal, see, e.g. Sanders and Kumar (1975).

It is noted that Eqs. 7.3 and 7.4 both consider the portion of the profile being "mined" for sand as containing 100% compatible material. If a portion of the profile contains peat or fine fraction that will not remain in the active system, a rather straightforward modification of the equations is required.